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ORIGINAL ARTICLES.

THE TREATMENT OF THORACIC ANEURISM BY IODIDE OF POTASSIUM.[1]

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THE good results afforded by the treatment of thoracic aneurism by moderate doses of iodide of potassium deserve more favorable recognition by the profession, on whose part there is a tendency to regard aneurism in the chest as a disease wholly incurable and almost beyond relief. As a consequence such cases often appear at city hospitals to take advantage of a treatment which in many instances could have been carried out at home with equal benefit, and certainly with less expense and discomfort. Of the various plans of treatment which have been proposed, none has proved so satisfactory as that of rest with the administration of iodide of potash. No special diet restrictions need be carried out. The amount of food daily consumed should be moderate, and the daily allowance of fluids kept within comfortable limits. Rest in bed is not an absolute necessity, except when symptoms are urgent, and when cough and dyspnœa are severe, or where it is evident that a very rapid growth is taking place in the tumor.

Eighteen cases of thoracic aneurism have come under my observation during four years' service on the medical staff of the Montreal General Hospital. Not all of these were my own cases, but some were under the care of my colleagues, with whose kind permission I quote them. All were not available for proof of the efficacy of any kind of treatment, the majority refusing to stay in the hospital, or leaving in a few days, whilst others who were out-patients could only be induced to remain long enough to be examined by the clinical medicine class. There remain but six cases to illustrate the beneficial results of the iodide of potash.

CASE I.—D. J., æt. fifty-five, colored, a barber, admitted in December, 1885, with symptoms of extensive aortic enlargement, there being pressure symptoms showing that the whole arch as well as the descending aorta was involved. A pulsating prominence dull on percussion was found in the left interscapular region: orthopnœa; brassy cough and severe pain in the left chest; cardiac area much increased; double aortic murmur. The case is elsewhere reported in detail to record a rare symptom in aneurism of the chest, viz., localized sweating over the area of distribution of those nerves supposed to be pressed upon by the tumor. This man steadily improved under treatment, went to his home in June, 1886, and has remained ever since in a greatly improved state of health. He is no longer confined to bed, can walk about the house, or short distances in the street, without discomfort or pain. The tumor has become smaller and pulsation less evident. He has been taking iodide of potash in ten grain doses almost uninterruptedly since he first came under observation.

CASE II.—G. C., æt. thirty-five, about three months ago began to suffer from cough of a hollow, dry, brassy character, and extensive pain under the upper part of the sternum. There was urgent dyspnœa upon exertion. Tracheal tugging was present. There was no dulness on percussion or bruit. Aneurism probably in the transverse arch pressing upon the trachea. No history of syphilis.

After six weeks' residence in hospital, taking ten grain doses of the iodide, he returned to the country. The pain and dyspnœa were relieved, but cough was still present. No further history to be obtained.

CASE III.—E. A., æt. forty-seven, for twenty years a cavalry soldier and instructor in sword exercise. Admitted to the hospital for the first time in June, 1885, complaining of pain in chest, dyspnœa, dry brassy cough without expectoration, emaciation and debility. Had syphilis ten years ago. Dates the present illness from the kick of a horse received in January, 1885.

The pain is very severe, situated in the upper sternal region and shooting to the right side, becoming intolerable on any attempt to lie on the left side. The superficial veins are enlarged upon the chest and left side of the abdomen. There is local bulging with expansile movement and dulness on percussion over an area one and a half to two inches in diameter, at the level of the second rib, close to the right side of the sternum. No thrill; no murmur; second sound accentuated. No tracheal tugging; carotid and radial pulses are equal. Paralysis of left vocal cord.

Was placed upon ordinary diet, and given ten grains of iodide of potash three times a day.

[1] Portion of a paper read before the Canada Medical Association at Hamilton, Ontario, Sept. 1, 1887.

After a month it was noted that he had gained flesh, the brassiness of the cough had almost disappeared, there was no dyspnœa, and he became able to lie upon either side without pain or distress. He was discharged in September, 1885. Not finding any work to do he joined the volunteers and undertook night duty for a week in the guarding of public buildings at the time of the vaccination riots, and being anxious to make money he took duty for others, so that he was on guard every night in succession for a week. Then he obtained a situation as groom, which he was able to keep, until he found something better to do in the cotton factories at Cornwall. On Nov. 23, 1886, he returned to the Montreal General Hospital with an attack of facial erysipelas. He told us then that he had almost uninterruptedly taken the iodide, and that he had not suffered any of the symptoms for which he had previously been under treatment. He is active and well now (Dec. 12, 1887).

It is commonly stated, and, indeed, by some of the best authorities on the subject, that the benefit derived from the iodide is entirely due to the accompanying rest and diet, but I think here the drug must get the credit.[1] This man was enabled by its use to be relieved of symptoms and to return to the gaining of his living, continuing, as far as we know, for two and a half years in good health, doing hard work and under no diet restriction.

CASE IV.—I. G., æt. fifty-four, was a man whom the world had used hardly. He had been a soldier in the Royal Artillery and was wounded by a bayonet thrust through the back of the neck at Inkerman, was made prisoner by the Sepoys in India, lost his right leg in an explosion in a mine, and broke his right thigh in a railway accident. Admitted to the Montreal General Hospital on the 27th of November, 1886. Had been complaining of hoarseness for nearly a year and had been under treatment for an affection of the throat. Last September, two months before admission, had been suddenly seized with a severe paroxysm of coughing, and since then had suffered greatly from a dry, hard cough, which was worse at night or upon exertion. Latterly, there had been severe pain in the chest and dyspnœa upon the slightest exertion, so urgent as to prevent the patient walking even a short distance, or talking without getting completely out of breath. When quite at rest the breathing was very noisy, so much so as to disturb other patients in the ward. The voice was reduced to a whisper. Suffered from sharp pain shooting up the right side of the neck to the occiput. History of syphilis very probable.

[1] Gull (Lancet, Nov. 27, 1875): "Those cases of reputed aneurism, which were said to be cured by iodide of potassium, were really not aneurisms at all. They were examples of mistaken diagnosis."

The physical signs pointed to the presence of an aneurism of the innominate.

The symptoms were very severe and alarming; nevertheless, steady improvement followed the use of iodide of potassium. He stayed in hospital all winter, being at first obliged to remain in bed owing to the dyspnœa, but after two months improvement was most evident; pain, dyspnœa, and cough disappeared. From March to May he was kept on as a convalescent, assisting in the work of the hospital, and not suffering from any of his symptoms, except the noisy breathing, which was noticed only when he was asleep. On the day of his discharge, in May, he was able to walk from the hospital to my house, a good mile up hill all the way, without any suffering.

Since that time I have not seen him, but I hear that he is still alive.

CASE V.—W. H., æt. thirty-one, had been from boyhood a bandsman in the Imperial Army, and had served many years in India, but has lately been employed as a lumberman. Has had acute rheumatism but never any venereal disease. Admitted to Montreal General Hospital on Dec. 15, 1885, under the care of Dr. George Ross, complaining of a painful lump in the upper part of his chest. About a year previously to admission he began to suffer from pain supposed to be neuralgic, in the upper part of the chest, in the right axillary region, and along the inner side of the upper arm. After a time these pains became less severe, and were succeeded by others in the right side of the head and neck, which soon attacked the other side. When pain first appeared a dry hacking cough began, which gradually has been increasing in severity, and soon was noticed to have a barking sound. Shortness of breath upon exertion has never been present. One month ago he noticed the swelling in the chest.

Physical examination (extract from Hospital Case-book): A well-nourished, healthy-looking man, temperature normal; pulse 72, good strength, regular, equal on both sides. On the front of the chest a distinct pulsating elevation 1½ inch in diameter, seen at the upper part of the sternum, reaching as high as the sterno-clavicular articulation, and lying a little to the right of the middle line. Percussion shows a dull area of a diameter of 2½ inches, the centre being the centre of the tumor. Pulsation in the tumor is well marked, heaving and lateral, and there is a well-marked diastolic shock, but no thrill. In the episternal pit pulsation is slightly felt. There is a slight soft blowing systolic bruit of maximum intensity to the right of the tumor, transmitted out beneath the right clavicle, very faintly heard over the tumor, increased by sitting posture and variable in intensity from time to time. The second sound is loud and booming over

the tumor and usually distinct at the apex. Tracheal tugging is well marked.

The usual ten grains of the iodide were prescribed with rest in bed and good diet.

Dec. 31. Aneurism has decreased one inch in circumference; pulsations less strong; bruit louder. The bony edge of the aperture in the sternum can be clearly felt. No pain whatever.

Patient left the hospital. There remains but a very slightly elevated tumor at the upper part of the sternum with evenly distributed pulsation with maximum force at the upper part of the sternum and toward the right, where a well-defined hole in the bone can be made out, through which the impulse can be more plainly felt. Dulness on percussion remains over an area of about two and a half inches in diameter.

No report has been heard of the course of the disease.

CASE VI.—H. M., æt. forty-three, now a laborer but for many years a sailor. Admitted Oct. 2, 1885. The disease began with pain in the right side of the neck and head, which has occurred off and on for a long time, and which he dates from a strain in lifting a large piece of ice some nine years ago. No history of syphilis. In 1884 the pains became worse, the voice hoarse, and he began to lose flesh, signs of pressure on the superior vena cava began to appear, the lids became puffy, the face and neck greatly swollen, ears blue. Dyspnœa on exertion was also present. There were physical signs pointing to the presence of an innominate aneurism. The abdominal and thoracic veins on the right side were enlarged. Tracheal tugging present. Right pupil smaller than the left; no paralysis of the vocal cord.

Treatment as usual. He left the hospital on the 4th of October taking his medicine with him, returning on the 23d of the same month to report himself. The face and lids were much less swollen. Pain partially relieved, cough easier. Dyspnœa has been troublesome on one occasion only. Has been sleeping well, which he has not done for twelve months. He was readmitted on Oct. 30th, and discharged in January, 1886, feeling much better with the exception of a return of the pain, but he soon came back with symptoms no worse, but there was noticed for the first time deficient resonance over nearly the whole of the left lung, with weakened breathing. For the rest of the winter he remained in the hospital, nearly all the time in bed, complaining of the dyspnœa at night, but in June, 1886, he improved greatly and left us. Now here occurred what I consider remarkable in the case: this man who had been so ill all winter, and in extreme suffering and danger, so far recovered as to be able to leave the hospital, obtain work, and gain his living for seven months as a night watchman. In September, I saw him walking in the street, looking as well as any one, a man who but a few months before had been in bed gasping for breath, blue in the face, and lying propped up with pillows. He told me that he himself was so convinced of the benefit of the iodide that nothing would tempt him to miss a dose of it, and that he had persistently taken it since he had been in hospital. When the winter came on he got out of work, and having no home suffered great hardships. I found him one day in the early winter half clad and hungry wandering about the streets, and secured his admission to the hospital, but rather too late. The privations of the last few weeks seemed to have undone all that had been done. Rapid enlargement of the superficial thoracic veins took place, and he died in hospital.

CASE VII.—This case is introduced to show the immediate effects of iodide of potash in relieving urgent symptoms.

W. S., æt. forty-eight, a private patient, now a clerk, who has served twenty-one years in the army, fourteen years in the ranks and seven as a military clerk. Had syphilis severely twenty years ago. Has had symptoms of aneurism for seven years, pain in right shoulder and root of the neck and shooting into the tips of the fingers, and was treated for rheumatism in a military hospital, whence he went to St. George's Hospital, where the diagnosis of aneurism of the innominate was first made. In 1882 he was subjected to a course of low feeding with iodide of potassium in thirty grain doses. The pain was very severe and numbness in the arm was also present. About this time the right clavicle became dislocated forward and the pressure symptoms abated.

When I saw him there was very great dyspnœa and most severe pain in the chest, the general condition being one of angina. Could not lie down or remain quiet for any length of time. There were physical signs of a very large aneurism of the innominate artery extending above the dislocated clavicle into the root of the neck. Right pupil was much smaller than the left, and the right pulse much weaker than that of the other side. He had been suffering severely from pain and dyspnœa for the previous six weeks.

Immediate relief was afforded by morphia and the patient given the usual dose of iodide in spite of his protestations. At the end of a fortnight all urgent symptoms had disappeared, and he was enabled to return to his duties suffering no pain. He remained well, under my observation, until May, 1886, when he lost his situation and went to the west. During all this time he had no symptom to complain of, and repeatedly told me that he had not felt better since the aneurism began.

FEMALE DRESS AS A DETERMINING FACTOR IN PULMONARY CONSUMPTION.

BY THOMAS J. MAYS, M.D.,

PROFESSOR OF DISEASES OF THE CHEST IN THE PHILADELPHIA POLYCLINIC.

HOWEVER much the human family may pride itself on the independence of its mental forces, it is quite certain that its physical constitution is moulded to an indefinite extent both by external and internal influences. Food, drink, clothing, shelter, ventilation, occupation, exercise, sexual differentiation, etc., not only modify the conditions of normal life, but render the two sexes liable to different diseases. The fact that a greater liability exists in the female sex toward hysteria, chorea, cancer, anæmia, ascites, peritonitis, glaucoma, etc., and in the male sex toward angina pectoris, tetanus, locomotor ataxy, Addison's disease, diabetes, typhoid fever, etc., are evidences of the general truthfulness of this statement, and we shall herein offer evidence to show that pulmonary consumption is no exception to this rule.

It is currently believed that more females than males fall victims to this disease. Both Laennec and Louis held this view, at least so far as France was concerned; and Ancell, one of the most prolific and exhaustive writers on the natural history of tuberculosis, concurs entirely in this opinion. Sir James Clark's statistics, which were collected from thirteen different localities in Europe and America, showed in the aggregate more deaths from phthisis among females than among males. Dr. A. James, in an interesting article on "Sex in Connection with Phthisis," lately published in *The Edinburgh Medical Journal* (March, 1886), arrives at the same conclusion. It must be admitted, too, that if the question of sex in relation to pulmonary consumption be viewed from an *a priori* standpoint, there are sufficient reasons for believing that the female is more prone to the disease than the male, because she is generally considered to be the weaker, and because she is more exposed to the causes which are known to give rise to it. She is confined within-doors, where she naturally spends the greater portion of her life, and is, of course, subjected to the influences of impure air and bad ventilation. She leads a sedentary life, is deprived of sunlight, exercise, and undergoes the enervating processes of gestation and lactation, while, on the other hand, the male is, as a general rule, less or not at all exposed to most of such unhealthful conditions; and it is only when he is subjected to some of them, as, for instance, to impure air, sedentary occupations, etc., that he becomes notoriously liable to pulmonary consumption.

Having recently made an inquiry into the death-rate of pulmonary consumption in different parts of this city,[1] our attention, in comparing the death-rate of this with that of some other American cities, was drawn to the fact that in most instances the male decedents from consumption exceeded the number of female decedents. The range of the statistics which we then examined was rather too limited to draw any satisfactory inferences, and it therefore appeared to us of interest to ascertain whether this difference in the liability of the two sexes to this disease exists with sufficient constancy to be regarded as a law, and, if so, whether there be any obvious cause for this phenomenon. We accordingly collected and herewith present statistics in regard to this question which embrace the principal cities of Europe and of America, as well as some of the agricultural districts of the former country, besides embodying statistics of about six thousand cases of consumption which have been gathered from the hospitals and private practices of various authors and practitioners throughout Europe and America. We have, so far as this was possible, compared the number of deaths from consumption of each sex with

STATISTICS OF SEX IN PULMONARY CONSUMPTION.

Locality.	Male	Female	Remarks.
Chicago[1]	1 : 635	1 : 793	Average for 6 years, 1869, '81 to '85.
New York City, 1870	1 : 233	1 : 318	
Massachusetts, 1880	2.86 p. ct.	3.28 p. ct.	Per 1000 males and females, respectively.
Boston, 1883–84	1 : 248	1 : 251	
Rhode Island, 1884 and 1885	1 : 380	1 : 351	
Philadelphia, 1884 and 1885	1 : 303	1 : 310	
Nashville, 1877 and 1878	1 : 263	1 : 286	Both white and colored males and females.
" " " "	1 : 443	1 : 422	White males and females only.
" " " "	1 : 142	1 : 190	Colored males and females only.
San Francisco, 1875 to 1880	1 : 313	1 : 418	Average of 5 years.
Sacramento	1 : 340	1 : 435	Average of years 1874 and 1879.
Cincinnati, 1883	1 : 325	1 : 423	
Baltimore, 1885	1 : 342	1 : 381	
Scotland, 1871 to 1880	1 : 423	1 : 387	
England, 1872 to 1881	1 : 467	1 : 502	
London, 1843 to 1846, decedents from consumption.	53 p. ct.	47 p. ct.	See Ancell, p. 396.
Basel and Zurich, 1877 to 1884, decedents from consumption.	54.7 p. ct.	45.3 p. ct.	See Dr. Schnyder in "Correspondenz Blatt für Schweizer Aertzte, Nos. 10, 11, 12, 1886.
Cantons of Wallis, Waadt, Freiburg, Lucerne, from 1877 to 1884, decedents from consumption.	52.5 p. ct.	47.5 p. ct.	" " "
Cities of Prussia, 1875–1879	1 : 236	1 : 318	
County districts of Prussia, 1875–1879.	1 : 314	1 : 369	
Leading cities of New Jersey, 1884, deaths from consumption in nine.	94	84	

[1] These figures indicate a lower death-rate for Chicago than actually exists, because we were not able to obtain the male and female population of this city separately; hence our estimate is based on the male and female population of Cook County in which it is located. and for comparative purposes answers very well.

[1] A Study of Pulmonary Consumption in the City of Philadelphia, by Thomas J. Mays, M.D., pp. 26. Transactions of the College of Physicians of Philadelphia, November 3, 1886.

Hospital and private practice.	Male.	Female	Remarks.
Dr. Flint, Sr., 669 cases .	508	164	See Flint on Phthisis, p. 50.
Dr. Williams, 1000 cases .	625	375	See Williams on Consumption.
First Brompton Hospital report, 1848.	61	39	
Dr. Pollock's practice . .	60 75 p. ct.	39 25 p. ct.	
254 patients of Dr. Schnyder's, coming from cities.	1659	890	See Dr. Schnyder, Cor. Blatt für Schweizer Aerzte, Nos. 10, 11, and 12, 1886.
914 patients of Dr. Schnyder's, from the country.	537	377	" " "
500 of Dr. Brehmer's cases .	319	181	See Brehmer "Die Aetiologie der chronischen Lungenschwindsucht.
88 cases reported by Dr. Churchill, of Paris . .	59	29	
67 cases reported by Dr. Thorowgood.	34	33	
Cases in Royal Infirmary, Edinburgh, 1833, '34, and '35.	365	217	See Reynold's System of Medicine, vol. iii. p. 546.
Consumptives in three Parisian Hospitals, proportioned to the whole number of inmates.	1 : 35	1 : 21	See Ancell, p. 397.
550 deaths in St. George's Hospital in ten years.	388	162	" " p. 763.
Chest Department of Phila. Polyclinic since Jan. 1885.	113	88	
Brompton Hospital for Consumption, from 1842 to 1848.	2682	1597	

the population of each sex living at the time, and in those cases where such a comparison could not be made, as, for instance, in those which were culled from private and public experience, the number of each sex treated is simply stated. In many cities, a larger number of females than of males die of consumption, but with a very few exceptions it appears that the proportionate death-rate from consumption is less among the female than among the male population because, as a rule, here the females outnumber the males.

The statistics which we have collected on this subject are presented in the following order: (1) the reports of health boards, etc., and (2) cases of consumption which have been treated by various practitioners of medicine.

These statistics, which were not selected but comprise all which we were able to examine, so far as they go, establish the fact, beyond a doubt, that in civilized life the male sex is more liable to pulmonary consumption than the female sex. It is true that some instances show exceptions to this rule; but when we, on the other hand, take into consideration that, in these, the mortality difference is slight, and that the great mass of evidence points overwhelmingly in the other direction, the conclusion we have stated becomes inevitable. The hospital statistics presented above likewise point out the same preponderance of the male element in the morbidity and mortality rate of pulmonary consumption. It is well known that, as a general rule, more females present themselves at clinics, dispensaries, and hospitals, than males, yet in all of the returns here given a disparity is shown in favor of the female sex so far as pulmonary consumption is concerned. Thus, an analysis of the clinic record of the Chest Department of the Philadelphia Polyclinic, with which we have been connected, from January 1, 1885, to date, shows that during that time there appeared for treatment 1741 patients, most of whom suffered from pulmonary or cardiac diseases, or from affections allied therewith. Of this number 754 were males, and 987 were females. It will be seen, however, that while the females outnumbered the males in the general chest clinic, the number of males predominated among the consumptives—for of these there were 113 males against 88 females.

Now, the question which naturally presents itself here is, as to whether this greater liability of the male sex to pulmonary consumption is merely the result of chance or accident, or whether it is governed by causes which are as persistent as the phenomenon is regular. We believe that a line of difference so strongly and so clearly drawn as this is cannot be the product of fortuitous circumstances only, and that the cause for its existence is in a great measure inherent in the functional differences which obtain in the breathing of the two sexes.

Since the time of Boerhaave[1] it is known that a fundamental difference exists between male and female breathing, that the former breathes chiefly with the lower portion of the chest—which is called the diaphragmatic or abdominal type of breathing; and that the latter breathes principally with the upper portion of the chest, which is called the costal type of breathing. These types of respiration can be graphically illustrated on a registering cylinder by means of a pneumograph as is shown by the following tracings. The first is a typical tracing of male, and the second a typical tracing of female respiration (see Figs. 1 and 2). The first half of each tracing represents the abdominal, and the second half the costal movements. This order will be observed in all the tracings which appear in this paper unless otherwise indicated.

It will be observed that the contrast between a typical male and female respiration is well brought out by this method of demonstration, the curves of the tracing showing the greatest amplitude in the abdominal and the least in the costal movements of the male, while in those of the female this order is exactly reversed.

Quite recently, and with a view of establishing whether this difference of respiratory motion in the

[1] Prælect. Academ., § 623, tom. v. p. 144. Ed. Haller., Amst. 1744.

civilized male and female is primitive or acquired, we had the privilege given to us of investigating the chest' movements of the Indian girls of the Lincoln Institution of this city. All the girls in this school

FIG. 1.

Abdominal. Costal.

Tracing taken from chest of a civilized male.

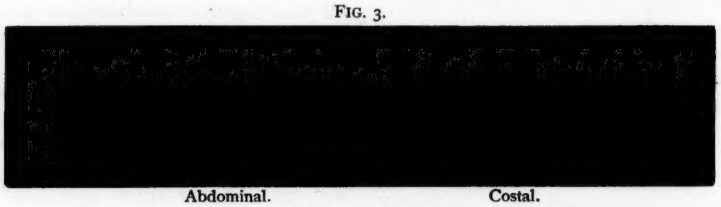
FIG 2.

Abdominal. Costal.

Tracing taken from chest of a civilized female.

had been brought here in their wild condition, and their bodies had not yet been subjected to the constricting influence of civilized dress, hence it is obvious that such an observation would give us a true representation of the chest movements in their original state. In all we examined the movements of eighty-two chests, and in each case took an abdominal and a costal tracing, of which the following is a typical example (Fig. 3). When the tracing is

FIG. 3.



Abdominal. Costal.

Tracing taken from chest of Indian female.

compared with that which is obtained from the chest of the civilized female (see Fig. 2) it will be observed that a most marked modification has taken place in the movements of the female thorax during the transition period from savage to civilized life. A complete reversal of the type of respiration has taken place; the abdominal type of the Indian becoming the costal type of the civilized female. That this change of type has been effected principally through the influence of civilized dress, and not through the influence of gestation, as was believed by Hutchinson and others, is shown by the following considerations:

1. The costal breathing is much less apparent, and the abdominal breathing is more pronounced in those civilized adult females who have never worn corsets, than in those females accustomed to the use of corsets. This is well shown in Fig. 4, which is a

FIG. 4.

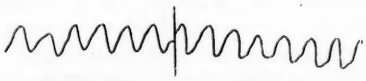
Abdominal. Costal.

Tracing of the chest of civilized female who never wore a corset.

tracing of the respiratory movements of one of those rare specimens of the female sex who has never been invested by a corset.

2. The costal type of respiration is more marked both in the civilized and in the Indian female when the abdominal constriction is tight, and it is less in the civilized, and wanting in the Indian female if the abdominal movements are not restrained by tight dress. Fig. 2 is a typical tracing of the abdominal and costal breathing of a civilized female clad in corset and dress ordinarily tight. Fig. 5 is a tracing

FIG. 5.



Abdominal. Costal.

Tracing of same chest with corset off.

of the breathing of the same female after the corset and constricting dress had been removed. We have found that a similar variation in the respiratory

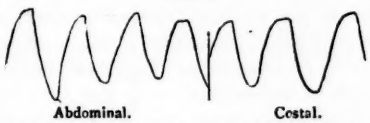
[1] An experimental inquiry into the chest movements of the Indian female. By Thos. J. Mays, M.D. Read before the College of Physicians (Phila.), April 6, 1887, and published in Therapeutic Gazette, May, 1887.

movements of the full-blooded Indian female takes place when her abdominal respiration is interfered with by a constriction.

3. The costal breathing, as a rule, is much more evident in those Indian females who have a mixture of white blood in their veins, than it is in those of pure Indian stock, thus showing, too, that the influence of inheritance plays a part in the modification of the chest movements.

4. The chest movements in the male can be vastly modified by placing a broad band around the abdomen sufficiently tight to interfere with the motion of the diaphragm. Fig. 6 is a tracing of the movements of a male chest after the abdomen was tightly bound with a strong and inelastic belt. In order to observe the modifications which can be thus produced, this figure is to be compared with Fig. 1.

FIG. 6.



Tracing of chest of civilized male, with tight belt around abdomen.

These data demonstrate, then, that the primitive type of respiration in both male and female was abdominal, and that the costal type of respiration which is characteristic of the civilized female differentiated from the original type through the influence of dress. If, therefore, the chest movements are thus readily moulded, even at the will of the experimenter, as has been shown, it becomes an important question to determine whether the influence of dress plays any part, either direct or indirect, in the production of this disease under consideration, both in the male and in the female sex.

When we look into the history of the natural genesis of pulmonary consumption, we find that almost without exception it starts in the apex of either lung. This fact becomes pregnant with forebodings so far as the cause of this disease is concerned, when it is taken in connection with the other fact that the lungs possess a much greater air capacity than is necessary to meet the oxygen demand of the blood, and to carry off the effete products of respiration under the ordinary conditions and surroundings of life. The truth of this is not only confirmed by the many known instances in which persons having large cavities in their lungs, and who are thus deprived of a considerable portion of their breathing surface, are considered well enough for all practical intents and purposes; but also in the many instances in which cavities have been found after death in persons who died from some other cause than consumption, and who were never suspected of having had a process of excavation going on in their lungs during life. The best proof, however, of the correctness of the proposition that the lung-surface is larger than is necessary for the proper aëration of the blood is the experimental evidence[1] which has been recently adduced by Prof. Mosso, of Turin, Italy. The experiment consisted in counting the number of respirations in a given time, and in measuring the amount of air taken in during each respiration by means of an air-clock which was constructed for the purpose, and which through a well fitted mask was connected with the mouth and nose. Observations were made at the sea level, and at different mountain elevations, and it was found that at an elevation of about 10,000 feet the amount of air inspired was nearly twenty-five per cent. less than at the sea level, and although the respirations nearly doubled themselves in frequency, they also became more shallow.

These experiments show then that at or near the sea level man breathes about one-fourth more air than is utilized in his body. This Professor Mosso calls "luxus-athmung" (excessive respiration), and by a similar experiment he shows that the number of ordinary respirations can be reduced to nearly one-half their frequency without entailing much bodily inconvenience at the time. While the possession of such a luxus-respiration, and of the voluntary power to diminish the respiratory frequency to such a great degree, and with apparent impunity, are wise provisions of nature to meet the requirements of many exigencies in life, they are also great elements of danger, and are liable to become a prolific cause of pulmonary consumption. For it is evident that if the blood would consume all the oxygen which is supplied to it during ordinary respiration, the slightest interference with the breathing function would at once manifest itself by a feeling of air-hunger which would stimulate the respiratory function to renewed activity. But this not being the case, it is likewise clear, on the other hand, that in many conditions of life the function of breathing is greatly diminished from sheer force of circumstances, and to the ultimate detriment of the respiratory organ, as we shall see in what follows.

When from any cause such a diminution of the breathing function takes place it is obvious that, if the air reaches all parts of the lungs with equal facility, the diminished activity will be distributed equally throughout these organs and no special part will suffer. This is impossible, however, for on account of a peculiar downward direction of the bronchial tubes there is an unequal expansion during each inspiratory act. The base and middle parts of the lungs always expand before, and always more

[1] Periodische Athmung und Luxus-athmung, von Professor Angelo Mosso, in Turin, Archiv für Physiologie. Du Bois Reymond, Supplement Band (December 8, 1886), p. 37.

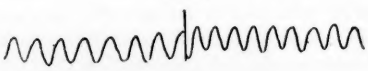
completely than the apices, hence the apices are normally the most inactive and the worst ventilated areas in the respiratory organs.

This question therefore arises, What connection is there between the inactivity of the apex and its liability to the beginnings of pulmonary consumption? How does inactivity prepare the apex for the onset of this disease? This can be best answered by stating that inactivity of a whole or a part of an organ implies that its individual or component parts are likewise inactive. The elastic and muscular fibres of the lungs, which assist in expanding and in contracting the pulmonary air-cavities, the arterial and venous capillaries, which serve as channels in which the blood is aërated, the processes of respiration, assimilation, and nutrition are all involved in the affected area.

Now, it becomes no difficult matter to foretell the probable pathological consequences which will follow such a condition as this! It is well known that when a lung, or a part of a lung, suffers in the discharge of its functions, as, for instance, in the acquired or congenital form of atelectasy, a contraction of its elastic tissue fibres occurs which of necessity not only reduces the bulk of the affected spot, but also the calibre of the bloodvessels, thus interfering with the capillary circulation to a degree which ultimately leads to hyperæmia and perchance to a rupture of the bloodvessels of the part. Such a contraction of the lung parenchyma, which undoubtedly takes place, too, in the incipient stage of pulmonary phthisis, serves to explain why it is that long before an active outbreak of the disease, the apex shrinks in volume, and why the lung then admits air with difficulty, as is evinced by a blowing inspiration over the implicated area.

Moreover, it may be stated that, as a rule, all who suffer from consumption of an apex, also suffer from a want of proper expansibility of the overlying chest wall. Indeed, we may say that in our experience we never saw a case in which this was not true at the very onset of the disease. It must not be overlooked, however, that after the disease has passed its first stage, and when serious destruction of the lung tissue is taking place, the respirations become deeper and more active in order that the diminished respiratory surface may satisfy the air-want of the body. This, however, is a direct result of the waste of pulmonary tissue, and the fact remains that all consumptives at the beginning of the disease, or those who have a predisposition to the disease, show a decided tendency to immobility of the upper part of the chest. We have taken a number of tracings of the chest movements of persons who were in the incipient stage of the disease and never failed to find that the costal motion was very much reduced in amplitude both in the male and female sex. Fig. 7 is a typical tracing of the chest of a female while suffering from slight infiltration of the left apex at the time it was taken.

FIG. 7.



Abdominal. Costal.

Tracing of chest of civilized female with corset on, suffering from incipient consumption.

It will be observed that the amplitude of the costal tracing differs but very little from that of the abdominal tracing. If the tracing of this figure is compared with that of Fig. 2, which is a typical tracing of a normal female chest, the difference becomes apparent.

If we now draw a picture of the incipiency of pulmonary consumption from its clinical side we are led to the very same conclusion. Physically it may be said that the first sign of apex trouble is a prolonged expiration, associated with or without dulness. This denotes either a slight condensation or congestion of the subjacent lung tissue. Or, on the other hand, these signs may be accompanied by crepitation, hæmoptysis, and a few moist râles. How often does it happen that a patient comes to his physician in great haste and in a perfectly demoralized mental condition, saying, "Doctor, I have no cough, no expectoration, and I feel as well as ever I did in my life, but this morning I spat up some blood. Do you think it comes from my lungs?" On inquiry it will probably be found that the patient is following a sedentary occupation within doors, seldom takes much exercise, does not eat as well as formerly, and has been slightly losing in weight, but shows no other abnormal symptom. Physical examination discloses a slight impaired percussion resonance, a prolonged expiration, and a few clicks in the right apex. There is much reason to believe that, if the close dependency between cause and effect above outlined holds true, in this case the patient's destiny would have been greatly changed if he had led an active outdoor life, and had taken care to develop the capacity of his chest instead of stunting it by a stooping position which his vocation demanded of him. This is not an overdrawn picture.

Examination of any mortality table will reveal the fact that pulmonary consumption claims its largest number of victims from that class of employés who spend their days within doors, and who cramp their chest by a sitting posture. Again, there is no doubt that the hemorrhage from which many of such patients suffer is simply due to a rupture of the overstrained and hyperæmic capillaries, consequent on a partial impermeability of that portion of the lung surface from which the hæmoptysis emanates, and may be regarded as an indirect bene-

fit rather than an injury, on account of the relief which it affords to the overdistended circulation.

Having seen then that in the aggregate more civilized males than females die of pulmonary consumption; that the costal respiration of the civilized female is developed through the constricting influence of dress around the abdomen; that the lungs possess an excessive breathing surface which by sedentary occupations, etc., can be, and is frequently reduced in a great degree; that the baneful results of such a reduction, consisting of hyperæmia, etc., fall with the greatest force on the apex of the lung; that all those who suffer from consumption also show a decided tendency to immobility of the upper part of the chest, are we not, therefore, justified in believing that a defective costal respiration and the beginning of pulmonary consumption stand in relation to each other as cause and effect? And, going one step further, is it not clear, that the civilized female owes her greater immunity from this disease, in a great measure, to the fact that she possesses a more highly developed costal expansion? If these relations exist it is quite obvious that her manner of dress is a direct factor in bringing about this result. She has, by force of necessity, been led to clothe herself after a method which demands a restriction of the abdominal and diaphragmatic movements, and which cultivates a greater development of the costal portion of the breathing organs, and, thereby, she unconsciously protects herself to a greater degree against this disease; while the male, on the other hand, dresses himself after a fashion which secures perfect freedom of motion to the diaphragm and to the abdominal muscles, but which also attracts and tends to confine the respiratory function to the lower portion of the chest. Moreover, it must not be forgotten that the same fashion also demands that his clothing should be suspended from the shoulders, which of itself restricts the movements of the upper portion of the chest; making it evident, therefore, that his clothing renders him, both indirectly and directly, more liable to the disease under consideration. To this conclusion, and to no other, do our facts and reasoning lead.

In connection with this part of our subject it would be interesting to trace the relative liability of the two sexes of the civilized and of the uncivilized races to pulmonary consumption, if the necessary data were at hand; for if the peculiar dress of the civilized female diminishes her susceptibility to this disease, then the uncivilized female, who wears no or very little constriction around her abdomen, ought, if other things are equal, to be more liable to it than her more fortunate sister, and ought also to show at least as high, or a higher death-rate than the male of her own race. That the death-rate from consumption among the reservation Indians, or among those who have but recently come in contact with civilization, is much higher than that of the civilized race, we have shown in a previous communication,[1] but whether the uncivilized female is more prone to this disease than the uncivilized male is not so certain. Dr. O. G. Given, physician to the Indian school at Carlisle, who has enjoyed an extensive medical experience among the Indians, states in a private letter to us "that among the Indians, as a general thing, the women are less subject to consumption than the men. The men, as a rule, are not so well developed, physically, as the women, and are the drones of the Indian camp, while the women are the working bees." This statement, which is also corroborated by other testimony, is very important, inasmuch as it demonstrates that the domestic relation between the Indian male and female is the very reverse of that which exists between the civilized male and female. In civilized life the male leads the active industrious life, while in the uncivilized community the female constitutes the energetic factor; she for the most part cultivates the crops and sustains the family, while the male sinks into a state of idleness and crime from which he readily merges into disease. Under these circumstances it would be aimless work to attempt a comparison. Evidence is not wanting to show us, however, that when these people are taken out of their wild haunts, and when the two sexes are brought into analogous relative positions to those which are held by the civilized sexes—*i. e.*, when they are housed, fed, and clothed like their civilized brethren, and when they are engaged in similar pursuits—there is very little difference in the death-rate from consumption. This opinion is based on a limited number of statistics which we extracted from the annual reports of the Indian Schools in Philadelphia, Carlisle, Pa., and Hampton, Va.; covering a period of three years in the first school, and five years in the two last instances—all of which show that, on the whole, the liability of the two sexes to consumption is about equal.

So far as this question affects the negro race our limited statistics show as marked a difference in the liability of the two sexes to consumption as that which obtains in the white race. These people have, however, been so long in contact with the higher form of civilization that their bodies have also, in a great measure, been moulded by the influence of the mode of dress which they copied from their white deliverers. From a considerable number of observations on the chest movements of adult colored females we find that in the majority of instances the costal expansion, while not fully equal to that of the white female, is still quite largely developed. The only noticeable difference, not so markedly shown

[1] Does Pulmonary Consumption tend to Exterminate the American Indian? By Thomas J. Mays, M.D. New York Medical Journal, May 7, 1887.

in the white female, is that, when the abdominal constriction is removed in those colored females who are accustomed to wear tight dress, the costal breathing is less and the abdominal breathing more prominent than when this is not removed; while in the colored female children, who have been subjected to very little abdominal constriction, there is, as a rule, a greater conspicuousness of the abdominal breathing, showing, probably in both cases, a greater tendency to revert to the original type of breathing than in the white female.

The evidence which has thus far been gathered from statistical, experimental, and inductive grounds all tends to demonstrate that impairment of the respiratory movements of the upper portion of the lungs is one of the principal direct causes of pulmonary consumption. Indeed, all the proof goes to show that in many conditions of life, especially in many of those to which the male sex is exposed, the apices of the lungs become superfluous parts of the body, and, on this account, possess a strong tendency to that premature waste which is characteristic of all organs when they fall into a state of inactivity. The practical solution of the problem of the prevention of pulmonary consumption, as well as of the cure in many cases, therefore consists in the adoption of measures which tend to increase the chest capacity, and which maintain the general and local health of the individual.

The treatment, so far as prevention is concerned, resolves itself into a proper exercise of the chest muscles, into systematic breathing, and into the rational employment of compressed and rarefied air; but since it is our purpose to treat the prevention of this disease with more fulness in a succeeding contribution, we shall only briefly touch upon the most salient points of the subject in this paper. First, then, as to a *proper training of the chest muscles.* This is accomplished by raising the shoulders, and by swinging the arms backward, forward, and upward, either with or without dumbbells, or by exercising on parallel bars, care being taken that a full inspiration is taken every time that the arms are thrown backward and upward, or the body forward, and that a complete expiration occurs when the arms are brought together in front, or when the body is thrown backward. These movements should be performed regularly, and from sixteen to twenty times in a minute. There are a number of appliances in the market which are worked by means of ropes, weights, and pulleys, and which are admirably adapted for the enhancement of the above-described movements. They are very simple, and can be attached to the wall of the nursery or of the sleeping-room, and not only afford a healthful exercise, but a pleasant amusement for both children and adults. These exercises should be employed every morning and evening, and from fifteen to twenty minutes, or even longer at a time, but they should never be pushed to fatigue.

Second—Sytematic breathing. Deep, voluntary breathing should be encouraged and practised on every occasion, not continuously, but at intervals throughout the day. This should be done in the counting-room, in the workshop, in the home, and out of doors. Care, of course, should be taken that the air is inhaled only through the nose, especially in the open air, so that the latter is fairly warmed before it reaches the lungs. The breathing should occur at natural and regular intervals of from fifteen to twenty times in a minute. Walking, running, dancing, jumping rope, etc., will add materially to the efficacy of this method of respiration.

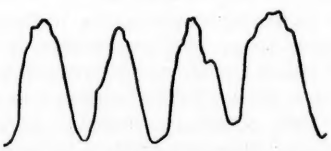
Third.—Compressed and rarefied air. Of all the means which have come into use for the purpose of developing the lung capacity, we are convinced that none exceeds in value that of the inhalation of compressed and exhalation into rarefied air. We have devised a pneumatic apparatus, somewhat after that of Weil, which answers this purpose effectually. It is manufactured by Mr. James Wilson, chief of the optical department in Wanamaker's depot. The method produces such a powerful physiological impression that it has already earned for itself a permanent place among the important measures of pulmonary therapeutics. When the individual thus breathes out of compressed air, and breathes into rarefied air successively, the whole chest and especially the apices will procure more perfect ventilation than can be obtained by any other known procedure. The following tracings (Figs. 8 and 9), when compared with the costal tracing of Fig. 1, demonstrate this: Fig. 8 is a tracing of the costal movements,

FIG. 8.

Tracing of the costal movements of a male chest during forced respiration.

when forced during voluntary efforts, and Fig. 9 is that of the same movements while inhaling com-

FIG. 9.



The same movements while inhaling compressed and exhaling into rarefied air.

pressed and exhaling into rarefied air. The greater amplitude of the tracings in the latter indicates deeper, slower, and more complete breathing.

The evidence which has thus far been brought together goes to show that a want of expansibility of the lung apices is one of the most fruitful sources of pulmonary mischief, and that the most effectual means of prevention lie in the methods which tend to oppose this condition. The problem of prevention is not one, however, which can be solved in a short time; but the exercises must be pursued to such an extent that their effects will become a part of the function of respiration; and not until this is properly understood and faithfully carried out will pulmonary consumption begin to lose its terror, and cease to spread death and desolation in our homes.

1829 SPRUCE STREET, PHILADELPHIA,
November 18, 1887.

THE VALUE OF ACETANILID IN ENTERIC FEVER.

BY J. HOWELL WAY, M.D.,
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PERHAPS never before in the history of scientific medicine have new pharmaceutical products been received with that degree of avidity, and so readily given an extended trial in the treatment of disease as the recently introduced antipyretics, antipyrin and its more powerful congener acetanilid or antifebrin. Starting from the place of its discovery in Germany, little more than three years since, the use of the former of these agents spread quickly through the great hospitals and the larger cities of Europe and America, until to-day one can scarcely find a village or hamlet whose medical faculty are not conversant with its therapeutic use.

And while not quite a year has passed since Cahn and Hepp, after studying its effects in Kussmaul's wards at Strasburg, gave to the medical world a full account of their observations on the effects of acetanilid, based on its use in sixty cases,[1] yet in this brief time its use has become, perhaps, as widely extended as that of antipyrin. The uncertainty, and ofttimes inefficiency, of quinine, kairin, chinolin, etc., as antipyretics, and the risks of fatal cardiac depression necessarily attendant on the use of veratrum, aconite, digitalis, and other remedies that lowered pyrexia by reducing the power of the circulatory forces, in doses sufficient to produce decided antipyretic effects, had wrought in the minds of many of the profession the impression that, save the use of cold, we possessed no antipyretic that was efficient, safe, and reliable, no agent which would certainly reduce hyperpyrexia without the introduction into the case of elements of danger often more serious in their nature than a moderate degree of fever heat. Using the language of personification in reference to these new antipyretics, we may say here was indeed their therapeutic opportunity, and their claims were pressed with that degree of enthusiasm usually attending the introduction of new remedial agents.

Observing the extended use of these recent additions to our therapeutic armamentarium, the question —Have these agents fulfilled the reasonable expectations of the profession or not?—naturally suggests itself. Without attempting to reply to this query as a whole, I shall in this paper limit myself to a brief consideration of the value of acetanilid or antifebrin, in the treatment of one of the most important of the febrile affections namely, typhoid or enteric fever.

When I first began the use of antifebrin, I bore with me the painful remembrance of a severe case of typhoid fever which had been doing well up to the end of the second week of the disease, when it came under my observation. During the early part of the third week, the temperature, which had been usually rising during the evening exacerbation to 104.5° F., rose to 105.4° F. one afternoon. Thinking here was an admirable opportunity of giving antipyrin a trial, it was administered as recommended by Brunton,[1] in "thirty grain doses hourly for three hours." The temperature, as taken for me by an attendant one hour after the administration of the last dose, was 96° F.! An hour later, on visiting my patient, I found him in a condition of extreme collapse, and, despite the most active stimulation, he succumbed in less than six hours after receiving the last dose of antipyrin. Afterward I never witnessed any evil effects from the drug, though using it frequently, but in greatly reduced doses, never giving it in larger amounts than ten grains. And while Cahn and Hepp[2] claimed, as a deduction from experiments on the lower animals, that fully two hundred grains would be required to produce a fatal issue in a healthy man, and had themselves given to human beings sixty grains per day of acetanilid without noting any ill effects, from my experience with antipyrin, I was not prepared to accept unreservedly the dictum of authority, but began the use of antifebrin by administering it in small doses of from two to four grains.

During the present autumn I have treated in private practice thirteen cases of enteric fever after the following general plan of treatment, with some slight variations to suit individual cases. When seen during the first few days of the disease, a sharp mercurial purge was induced, and afterward, when necessary, the frequency of the motions was regulated by the administration of opium. This, however, was rarely the case, as in the majority of the cases of enteric fever met with here the diarrhœa does not often become so aggravated as to demand treatment

[1] Berliner klin. Wochenschrift, Nos. 1 and 2, 1887.

[1] Pharm., Mat. Med., and Therap., 1885, p. 696.
[2] Op. cit.

especially directed to it. If not seen early, the mercurial was omitted. From the establishing of the diagnosis until the subsidence of the fever, quinine was given in two grain doses every four hours. Antifebrin was given as follows: in eight cases, two grain doses were administered at 1 P.M. and again at 5 P.M. In two of these cases it was found necessary to give another two grain dose at 9 P.M. In three cases the antifebrin was given in one and a half grain doses at 1 P.M. and at 5 P.M.; and in one of them the same amount was given again at 9 P.M. One of the two remaining cases had three grain doses at 1 P.M., and at 5 P.M.; the other received two one grain doses per day, at 1 P.M., and at 5 P.M. In about one-half of the cases cold sponging was resorted to from three to six times per day.

The highest point of febrile range reached in the evening exacerbation of any of the cases was 106.2° F.; the lowest 103.5° F., the average temperature in the evening exacerbation of the cases was 104.4° F. This observation was made in each case on a day at the close of the second week, when the disease was at its height; the antifebrin being suspended one day for this special purpose.

All of the cases made good recoveries; the average duration of the fever was twenty-two days. The patients were all young persons, ranging in age from fifteen to thirty-seven years; eight were males, and five females. In none of the cases were the slightest evil effects observed to follow the use of the acetanilid, save in a single instance where the patient complained of a slight degree of chilliness coming on soon after the drug was taken. In this case after reducing the dose from two grains to half that amount the temperature was satisfactorily reduced and the chilliness was not experienced. In every case the use of the drug in the doses indicated above invariably wrought a reduction in the temperature of from 1.8° F. to 3.4° F. The average reduction of temperature by the use of acetanilid in the thirteen cases as obtained by a comparison of the temperature of one day when the disease was at its height, and the temperature under the influence of antifebrin, with the day on which the administration of the drug was suspended, was 2.4° F. The effects of acetanilid on the cardiac action were frequently and carefully noted from day to day, and at no time were evidences of weakness or debility attributed to its use observed.

Per contra, I found that, regarding the cardiac condition, less need for the use of alcoholics arose during the progress of the disease than in cases treated after the most approved methods of a year or two past. In addition to this the degree of muscular prostration and exhaustion was not so marked as I have noticed when pursuing the methods of treatment recommended in our standard text-books. These results are, of course, readily explained by the efficient action of the acetanilid in lowering the temperature, thereby lessening the tendency to, and the amount of, granular degeneration of the muscular tissues very much more than in cases treated by the older methods, under which the febrile range could not be so readily controlled.

After the first few doses of the drug were administered in a case it was always noted that patients when fully cognizant of their surroundings, looked forward with interest to the hour for taking the antifebrin, alleging that it made them feel much more comfortable; and it was a matter of daily observation that the muttering delirium was invariably quieted, and the patients often sank into a peaceful slumber when the antifebrin began to produce its effect.

Though, perhaps, the number of cases observed may be too few to justify such a conclusion, I am constrained to believe that in acetanilid we possess our most valuable agent in the treatment of enteric fever attended with hyperpyrexia. Like other valuable agents, its use is likely to be abused, and when injudiciously administered it may prove a two-edged sword cutting for evil as well as good. The reports of cases of cardiac failure and collapse which have recently been appearing in the columns of various journals have, generally speaking, had their origin in the improper and injudicious administration of the drug, *i. e., from the administration of the toxic and not the medicinal dose of the drug.*

In conclusion the following advantages may, I think, be claimed with justice for antifebrin over all other antipyretics in the management of the hyperpyrexia of enteric fever.

1. The size of the dose is small and from the bland and unirritating character of the drug is easy of administration and not liable to produce gastric irritation.

2. The happy effect of the drug in reducing hypernormal temperature and in rendering the patient more comfortable by its soothing effects on the erethitic state of the nervous system accompanying febrile processes.

3. The absolute safety of acetanilid when used in medicinal doses. This conclusion may at present be called into question, but I am fully convinced that when we cease to give our patients *toxic* doses of the drug that cases of collapse and cardiac failure will cease to be observed.

MEDICAL PROGRESS.

Treatment of Empyema without Resection of the Ribs. —At a recent meeting of the Chicago Medical Society DR. E. FLETCHER INGALS described his method of

draining the chest in empyema, without resection, as follows:

The method that I have used in introducing drainage tubes would, perhaps, be of some interest. At present I use a broad flat trocar that is wide enough to allow the introduction of two of these tubes at once, that is, two tubes with an inside diameter of one-eighth inch. First making a very small opening in the skin with a scalpel, the trocar is then plunged in the cavity, and as the stylet is withdrawn, I place my thumb over the canula to stop the flow of pus; the tubes that have been prepared beforehand, are then slipped rapidly through the canula to the required depth, and the canula is at once withdrawn. No air will have entered the chest and not more than two ounces of pus will have escaped. To make the tubes I take a piece of two feet in length, cut it half way across near the middle, fold it on itself and stitch the two sides together so that the tubes can be spread apart in the chest. In one of these tubes I make openings for about four inches, in the other one or two openings close to its extremity. The outer ends of the tubes are tied tightly so that the pus will not flow till I am ready to fasten in the tubes. I cut off two half-inch sections from the same tubing and pass through each two bits of string, the ends of which are tied in loops; these are carried over the drainage tubes down to the surface of the chest; long strips of adhesive plaster are then passed through the loop and fastened to the chest, when the tubes will be firmly fixed. I then carry a roller bandage around the chest over the strips and the dressing is complete. If the patient is in good condition, I then attach to each drainage tube, by means of a bit of glass tubing, longer sections of tubing which have been filled with water, that can reach to the bottom of a basin of water sitting on the floor; the strings which have fastened the ends of the drainage tube are then cut and the pus allowed to escape, or such part of it as is deemed advisable. I recall one case in which I am satisfied if I had allowed any quantity of pus to escape at first it would have been fatal. On one or two occasions I did allow more to escape than was desirable, and I had to inject water into the chest to replace it.

The after-treatment that I have employed consists mainly in washing out the chest twice a day with a solution of carbolic acid, 2 per cent., at 100° F.—*Journal of the American Medical Association*, December 17, 1887.

When Shall Digitalis not be Given?—HUCHARD describes cardiac paralysis produced by digitalis as *digitalis asystolie*, and affirms that by the improper use of the drug it may be grafted upon valvular *asystolie*. This accident may occur

1. When the cardiac muscle is extensively degenerated; digitalis, by its failure to secure response of the heart-muscle, is a valuable means of diagnosticating this condition.

2. There are two stages of the modifications which the viscera undergo in heart diseases; one is the stage of venous engorgement, without marked parenchymatous changes; the other is the stage of sclerosis.

In the first of these conditions digitalis is of great value; in the second, it is most harmful.

When digitalis is contraindicated, Huchard employs caffeine, in doses of from fifteen to twenty-five grains daily.—*Revue Clinique et de Thérap.*, Dec. 8, 1887.

The Abortive Treatment of Buboes.—MANNINO has treated twenty-seven cases of bubo successfully by injecting them every two days with a very small amount of one per cent. solution of corrosive sublimate. A few drops of pus are aspirated at first, and replaced by a few drops of sublimate solution.—*Wiener medizinische Presse*, No. 47, 1887.

Intestinal Antisepsis in Typhoid Fever.—BOUCHARD has found the following formulæ useful in typhoid fever:

An iodoform mixture.

Iodoform.	gr. 9.
Æther. sulphuric.	ʒ 17½.
Carbo. vegetab. pulver. . . .	ʒ 50.

Mix, and after the ether has evaporated, add

Glycerin.	ʒ 45.

Of this, a teaspoonful may be given every two hours in half a glass of lemonade.

Iodoform, in powder, may be given as follows:

Carbo. ligni. pulv.	ʒ 25.
Æther. sulphur.	ʒ 17½.
Iodoform.	gr. 15

The iodoform must be dissolved in ether, and the charcoal added. Dose, a teaspoonful.

A salicylate of bismuth powder may be prepared as follows:

Carbon.	ʒ 12½.
Sacchar.	ʒ 6¼.
Naphthol. (β)	gr. 40.
Bismuth. salicylat.	gr. 40.—M.

To be taken during twenty-four hours.—*Le Bulletin Médical*, December 7, 1887.

Laryngeal Tuberculosis.—ARIZA, of Barcelona, is quoted as follows by the *Journal of Laryngology* for December, 1887, in his experience in this disease: Out of twenty phthisical patients seen by Ariza during the term 1885–1886, in the *Instituto de Terapéutica Operatoria de Madrid*, sixteen were men and four women; their ages ranged between sixteen and sixty-four years. The etiological causes were unknown, but in nearly all the cases there was some pathological relation between the larynx and the lungs. The cause of the affection was always chronic in the first-named organ, while chronicism and acuteness varied in the lungs. Ariza maintains the curability of laryngeal tuberculosis when the lung is sound or only slightly affected, though the lesions of the larynx may compel tracheotomy; and he records the case of a lady patient who, after having been tracheotomized, had an absorptive fever, with copious sweating, purulent expectoration with detritus of the tissues, and pieces of necrosed cartilage, until a time arrived at which the elimination of the tuberculous engorgements ended, and the patient was cured of her laryngitis. The forms of tuberculosis observed in twenty patients were the hypertrophic, the polypous, and the ulcerative. The treatment consisted in touching the ulcers with iodoform, carbolized and boric solutions, as well as with lactic acid and nitrate of silver; in removing the pediculated polypi, and in cauterizing the sessile ones with chromic acid or galvanocautery, and using for hypertrophies galvano-caustic punctures.

A New Preparation of Iron.—CHICAUDARD has prepared the sulphate of the protoxide of iron and ammonia as follows:

He dissolved separately 139 parts of sulphate of iron and 66 of sulphate of ammonia in as little water as possible, at 104° F. He mixed the solutions in a glass vessel, and added a few drops of sulphuric acid and stirred well with a glass rod.

The salt precipitates in small, greenish-white crystals. It is soluble to the extent of seventeen or fifteen per cent. in water. Chicaudard regards this salt of iron as a new and convenient one for physician's use.—*Journal de Médecine*, December 4, 1887.

Ergotin in Suppositories in the Treatment of Uterine Fibromata.—BELL has found the following suppository convenient in administering ergotin for uterine fibromata:

Ergotin	gr. 4 to 8.
Ol. theobrom.	gr. 25.
Vaselin.	gr. 5.

To be used per rectum.

These suppositories are also convenient in menorrhagia and metritis.—*Gazette de Gynécologie*, December 1, 1887.

The Influence of Antipyrin upon Nutrition.—At a recent meeting of the Academy of Médecine of Paris, ROBIN read a paper upon the influence of antipyrin on nutrition. His conclusions are as follows: Antipyrin limits the metabolism of the nervous system, thus limiting its excitability. It diminishes organic disintegration and oxidation, producing a corresponding relative excess of uric acid and nitrogenous waste. Antipyrin possesses antiseptic properties, proved in the living organism and in the laboratory.

From these conclusions he deduces the following clinical indications: Antipyrin is of value in neuroses; its value in fevers is not permanent; its antiseptic value, in very moderate doses, indicates its use in phthisis.

VERNEUIL added the report of two cases of septicæmia, following surgical operation, in which antipyrin, in thirty grain doses, morning and evening, was of the greatest value.—*L'Union Médicale*, December 8, 1887.

The Micrococcus of Beri-beri.—DR. C. A. PEKELHARING, of Atchin, after many attempts and successive failures, has succeeded in making plate cultures of microorganisms from cases of beri-beri; they are in appearance like diplococci, and form a milk-white smooth layer on the surface of agar-agar, which becomes very slowly liquefied. With the culture several rabbits and dogs were inoculated by means of injections under the skin or into the abdominal cavity, or by merely sprinkling the liquid culture about in the cage where the animals were kept. Most of those so treated became affected. One rabbit died nine days after the first of four injections with symptoms of paralysis of the respiratory apparatus and of the hind feet; another rabbit, which was given five injections, died thirty days after the first injection, and much less nerve degeneration was found than in the first rabbit. The animals were always injected several times, as Dr. Pekelharing believed that only repeated doses of the beri-beri poison were usually sufficient to induce the disease, persons who merely visited a barrack where the disease seemed to be endemic not being affected. It is important to note that considerable degeneration was found in the nerves of the hind feet of animals which had during life merely exhibited a slowness of movement. It was found possible to infect animals by injecting bacteria obtained from the air of a barrack where the disease was prevalent, and in these animals the characteristic micrococci and nerve degeneration were observed. This shows the importance of purifying the air of places where the disease occurs.—*British Medical Journal*, Nov. 26, 1887.

For Pulmonary Phthisis.—SCHOULL has obtained good results from

℞.—Creasot.	gr. ¼.
Iodoform.	gr. ⅙.
Sodii arseniat.	gr. $\frac{1}{120}$.
Boraginis	gr. ¼.
Benzoin, Magnesiæ	āā q. s.

in pill form, taken with meals.—*Gazette Hebdomadaire*, November 25, 1887.

Removal of a Spoon from the Small Intestine; Recovery.—DR. WALKER reported, at a recent meeting of the Cincinnati Academy of Medicine, the case of a sword-swallower, who, on a wager, swallowed a spoon. It gave him no annoyance for three and one-half years, when it passed from the stomach, and became impacted in the intestine. To relieve the well-marked symptoms of intestinal occlusion, the following operation was performed:

An incision was made in the median line about two inches in length, below the umbilicus. The tissues were divided down to the peritoneum. At the point where the hard body could be felt, there had been great inflammatory thickening. With the needle of a hypodermatic syringe the spoon was plainly felt through this thickened mass. A small incision was made directly over the point where the spoon was situated, as shown by the needle, through this new formed tissue, and a probe passed in to find the direction the gut took. This incision was then enlarged and the handle of the spoon presented. By a slow lateral motion the bowl of the spoon was loosened, and, finally, after some coaxing, was removed. The spoon was six inches in length, the breadth of the bowl was an inch, and the length two and one-quarter inches. After the removal of the spoon, the wound in the bowel was sewed up with three silk sutures. The external wound was closed with silver wire. The wound was dressed antiseptically. The bowel and the tissues adherent to it made the wall of the bowel fully one-half of an inch thick at this point. The peritoneal cavity was not opened at all in the operation. The dangers of it, of course, were therefore much lessened.

After the operation the patient did well. The temperature never was above 100°. The pain in the abdomen was immediately relieved. The bladder trouble disappeared. The stitches were removed on the sixth day, union having taken place. On the seventh day fecal matter began to be discharged from the wound. This kept up for nine days, when the fistula closed again. On the eighth day after the operation the patient had a large operation. The feces contained no blood. The patient was discharged from the hospital—well. What was most feared, a contraction of the canal at the point of incision,

did not occur. The patient has regular stools, and is as well as he ever was.—*Cincinnati Lancet-Clinic*, December 10, 1887.

Naphthalin for Chronic Cystitis.—In addition to the evidence already reported of the value of this substance, the surgeons of the Hospital Necker, in Paris, have recently obtained excellent results by giving naphthalin in powder, in quantities of from 8 to 20 grains to 30 grains in twenty-four hours. It is best given in doses of 1½ to 3 grains, combined with equal parts of sugar, and flavored with an alcoholic preparation of peppermint.—*L'Abeille Médicale*, November 21, 1887.

The Results of the Treatment of Prolapsus Uteri by Colporrhaphy.—The results of this mode of treatment among the German gynecologists, as reported at the recent Wiesbaden meeting, were as follows: 105 cases of prolapsus uteri were treated in five years time in SCHRÖDER'S practice and in his clinic. 88 of these cases were treated in the clinic, and 17 were private patients. The suture material used was catgut, prepared in oil of juniper. Of 123 colporrhaphies, made for various causes, and in which catgut was used, 97 healed by first intention; 24 had an unimportant defect in union; 2 did not heal because of infection. Of the cases of prolapsus uteri, 80 were healed; 2 died; the remainder either showed a bad result or went from observation. In 60 of the clinical cases (88 in all) the subsequent history of the patient was ascertained to determine the question of relapse. It was found that in 23 of the 60 clinical cases a return of the prolapsus uteri occurred. In 13 private cases only 1 showed a return. In the 105 cases 2 died, 1 from chronic nephritis; 1 from marasmus. Of all the cases, clinical and private, operated upon, 67.5 per cent. recovered. Of clinical cases 57 per cent. were cured; of private cases 86.7 per cent. recovered.

The results were reported by members of the clinical staff of the late Professor Schröder.— *Therapeutische Monatshefte*, November, 1887.

For Inhalation in Phthisis.—FILLEAU and PETIT have found the following a most useful preparation for inhalation:

Acid. carbolic.	gr. 30.
Essent. terebinth.	℥ 12½.
Essent. picis	℥ 5.
Eucalyptol. (Merck)	℥ 7½.
Chloroform.	gtt. 5.

Inhalations of five minutes each are advised, four or six times daily.—*Revue de Thérapeutique*, December 1, 1887.

Scrofulosis and Tuberculosis in Children.—NODDECHEN is quoted by the *Centralblatt für Kinderheilkunde*, No. 19, 1887, in the following conclusions, from a series of extended articles:

1. Scrofulosis and tuberculosis are not identical; scrofulosis is hereditary, and not infectious; tuberculosis is infectious, and not hereditary.

2. Scrofulosis is the best condition for the development of tuberculosis; when, in scrofulous tuberculosis, tubercle bacilli are found, we have to do with tuberculosis.

3. The relationship of the bacillus to broken-down, cheesy scrofulous matter, and the fact that by the injection of scrofulous pus tubercle is produced, are as yet not explained; we must believe, however, in the causal relation of the bacillus.

4. Hereditary scrofulosis and hereditary tendency to tuberculosis are identical.

5. If tubercle bacillus fail to find access, scrofulosis may recover; this happens not infrequently.

6. Tuberculosis may be produced by direct infection, without preëxisting scrofulosis.

Iodol in Surgery among Children.—DEMME is quoted by the *Archives of Pediatrics* for November, 1887, as using iodol as follows, among children:

1. As a powder to be sprinkled over deep wounds, for example, after scraping away tuberculous deposits.

2. Upon ulcerative necrotic surfaces, such as may be produced by extensive burns.

3. As a powder to be sprinkled over fresh incised or lacerated wounds.

The wounds are subsequently covered with a dressing of boric lint, over which is a layer of cotton-wool. The dressing is renewed every two to five days, and it has usually been found that the secretions are odorless, and the granulations healthy in appearance. Compared with iodoform, it does not become encrusted with the secretions like the latter, which is sometimes detached with difficulty, and may excite hemorrhage. In removing the iodol from a wound it is best to wash it away with a one per cent. solution of carbolic acid, or a two per cent. solution of boric acid. Tampons of cotton or of borated lint charged with oil of iodol or iodolated glycerin in the proportion of one of iodol to two or four of glycerin may be used to fill cavities which have been opened and scraped. Iodolated gauze of the same percentage strength and similarly prepared as iodoform gauze may be used as a substitute for the latter. Under the use of this gauze the granulation process progresses more satisfactorily than with the use of the oil of iodol or the iodolated glycerin. No symptoms of poisoning nor any harmful effects upon the digestive organs were observed from the use of the iodol. In two cases of extensive burns in which a large quantity of the iodolated glycerin was used, iodine was recovered from the urine one and a half hours after its use was begun. The local antiseptic action of the iodol appears to consist in the permanent separation of a very small quantity of iodine at the surface of application. Before or after absorption more or less of it probably combines with certain alkalies and albuminoids. It is not proper to lose sight of the possibility that the system may undergo toxic effects from iodol in the same way that it does from iodoform.

Geoline.—From *Il Progresso Medico*, we learn that this substance has been used by the ophthalmologists in the hospitals of Naples, and that it has proved a satisfactory base for ointments. It is made from petroleum; is pale yellow; transparent; odorless; containing no fatty matter; is neutral; does not crystallize or oxidize; is not altered by heat, cold, or acids. It melts at 113° F., and combines easily with metals and alkalies.

Antifebrin in Severe Variola.—HAAS, of Prague, has studied the effect of antifebrin in severe cases of confluent variola, and found that in comparatively small doses anti-

febrin lowered temperature, relieved the nervous disturbances of the disease, and prevented in some degree the extensive injuries to the tissues occurring in the worst cases.—*Wiener medizinische Presse*, No. 47, 1887.

Valerianate of Atropia in Whooping-cough.—MICHÉA prescribes, with good results:

Infus. buchu	ʒ 30.
Syrup. balsam. tolut.	ʒ 2½.
Atropiæ valerian.	gr. $\frac{1}{60}$.

A teaspoonful hourly, as needed.—*Revue de Thèrapeutique*, December 1, 1887.

Cocaine a Hæmostatic in Rhino-surgery.—RUAULT is quoted by the *Journal of Laryngology* for December, 1887, as follows, on this subject:

Cocaine is not merely a local anæsthetic, but also a local vaso-constrictor, for the lessening in volume of the nasal mucous membrane produced by this agent is owing to the rapid depletion of the submucous erectile tissue. These two properties of cocaine are independent of one another; the disappearance of sensibility is not due to local anæmia, since tissues deprived of vessels—*e.g.*, the turbinated bodies—are rendered anæsthetic with the greatest ease. The vaso-constrictor result is not due to direct action on the vessels; Bosworth has noticed that this action is confined to the venous sinuses, and does not extend to the capillaries. Indeed, cocaine does not make the nasal mucosa any paler than before the application, and it is, therefore, probable that this loss of blood is due to a reflex action making itself felt on the small arteries and the smooth fibres of the erectile tissue. Ruault has employed cocaine for two years as a hæmostatic, and uses solutions of twenty per cent. to thirty per cent.; he soaks a plug of cotton-wool in the fluid, and leaves it in the nasal cavities for at least nine minutes. In spontaneous epistaxis the plug should be left in for two or three hours. The author has stopped thus a certain number of hemorrhages: one of the patients had been obliged previously to submit to tampons. The use of cocaine also arrests the hemorrhage following nasal operations—*e.g.*, ablation of polypi.

Extirpation of the Larynx.—SIR MORELL MACKENZIE, in the *Journal of Laryngology* for December, 1887, has collected 103 cases of extirpation of the larynx for carcinoma, 8 cases for sarcoma, and 6 for other causes, a total of 117. Of these, 12, or about ten per cent., lived twelve months after the operation.

Cases of Excision of the Tongue for Cancer. — BERNAYS, of St. Louis, reports in the *St. Louis Medical and Surgical Journal* for December, 1887, three cases of excision of the tongue for cancer, of which two made good recoveries; one died of septic pneumonia.

The operations were performed after Kocher's method, and under full antisepsis.

The Treatment of Uræmia.—LANCEREAUX prescribes, to favor the secretion of urine,

Pulv. scillæ,	
Pulv. scammon.,	
Pulv. digital.	āā gr. ¼.

In one pill.

From four to six may be taken daily for from five to six days.

ROLAND prefers the following combination, which acts on all the emunctories:

Ext. jaborandi (alcohol),	
Ext. scillæ,	
Resin. jalap.,	
Resin. scammon.	āā gr. ¼.

In one pill.

Four or five pills may be taken daily, for several days. If preferred, nitrate of pilocarpine may be substituted for jaborandi, in doses of from $\frac{1}{25}$th to $\frac{1}{15}$th of a grain.—*Revue de Clinique et de Thèrapeutique*, Dec. 8, 1887.

The Absence of Microbes in Expired Air.—At a recent meeting of the Academy of Sciences of Paris on December 5, 1887, STRAUSS and DUBREUILH reported a series of bacteriological experiments upon expired air. They confirm the result arrived at by Tyndall, that expired air is *optically* pure, and add the further fact that expired air contains no microbes. Grancher, Charrin, and Karth have failed to find tubercle bacilli in expired air from phthisical patients. The fact seems to be that the lungs act as filters, gases being freely expired, but particles being retained. The observations of Pasteur, Lemaire, and Miquel, that microbes are abundant where human beings congregate, is explained by the fact that these microbes are derived from dried sputa, filth upon garments, and dejecta.—*L'Union Médicale*, December 10, 1887.

Iodine Trichloride.—LANGENBUCH has used this powder (ICl_3) as an antiseptic and disinfectant, in solution 1 to 1000 and 1500, which is equal to 4 per cent. of carbolic acid solution, and 1 to 1000 or 2000 corrosive sublimate. The substance is a reddish yellow powder, readily soluble in water.

RIEDEL and LANGENBUCH have used its solutions in more than 100 various operations, with good results. Ammonia water removes the yellowish stain it imparts to the integument. In solution, 1 to 1200 to 1 to 1500, a teaspoonful, taken every two hours, will rapidly relieve dyspepsia attended by the presence of bacteria. In solution, 1 to 1200, it is a good injection in gonorrhœa.—*Berliner klinische Wochenschrift*, No. 40, 1887.

The Action of some Substances upon the Secretion of Microbes.—At a recent meeting of the Society of Biology of France, CHARRIN and ROGER reported that certain substances, notably mercuric chloride, prevented the formation of the customary colored secretions of various microbes. A strength of seventy-five grains to the quart was sufficient to produce this effect, which was not chemical, but a modification in the functions of the microbes.—*Le Progrès Médicale*, November 12, 1887.

Antipyrin in Diabetes. — GÖNNER reports in the *Correspondenz-Blatt für Schweizer Aerzte*, No. 19, 1887, the case of a man, aged sixty, who had suffered from diabetes for six years; in whose urine as high as six per cent. of sugar had been found. After antifebrin to the extent of 135 grains had been given, Trommer's test failed to discover sugar. The drug was then continued for ten days, 45 grains daily, and a permanent improvement followed in ten days time.

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SATURDAY, JANUARY 7, 1888.

ADULTERATION OF FOOD AND DRUGS.

NEARLY a year ago there was a meeting in Washington of delegates from various societies, boards of trade, etc., in accordance with a request issued by the American Society for the Prevention of Adulteration of Food, etc., of Philadelphia. After the Convention had perfected its organization it proceeded to discuss the form of a bill to prevent the adulteration of food and drugs, which bill it would recommend to Congress for enactment. The form of bill which was finally agreed upon is substantially the same as that recommended several years ago by a committee of experts appointed by the National Board of Trade, of which committee, Dr. J. S. Billings was chairman. Its essential features are: *First.* Prohibition of adulterations which are dangerous to health. *Second.* Regulation of adulterations which are not dangerous to health, so that consumers may know what they are buying. *Third.* That its provisions shall correspond to those most approved in State Laws relating to this subject, and, especially, to the laws of Massachusetts, New York, and New Jersey; and, *fourth*, that the jurisdiction of the United States in this matter is to be confined to the District of Columbia, the territories, and the forts, navy yards, etc., under the exclusive jurisdiction of the Federal Government, and to inter-state and foreign commerce.

This last principle is one that must be carefully kept in mind, for the subject of adulteration of food and drugs is one that comes under the "police power" which, by the Constitution, is reserved to the several States. The individual States cannot, however, fully regulate this matter, for it is practically impossible for any State to prevent the importation of adulterated articles. This, however, is precisely what the United States can do, by virtue of its power to regulate commerce, and thus if the action of the several States and of the United States is harmonious, and based on the same principles, each can powerfully aid the other.

So far as food is concerned the evidence is quite sufficient, that while many articles are adulterated, few of the adulterations are dangerous to health. There are frauds which should be prevented in the interests of the public as well as in those of honest manufacturers, and the provisions of the bill as regards foods have been framed from this point of view. The case is different as regards drugs and medicines, for all adulterations of these must be regarded as dangerous to health or life. If the drug has not the powers and properties which it should have in the usual dose the physician will not obtain the effect which he desires, and which he has a right to expect. A remedy of uncertain strength, which must be experimented with to learn how much of it is required to produce sleep, or purgation, or action of the kidneys, or skin, is one which the physician would never use if he could help it; but, unfortunately, he often cannot help it.

No class of the community would more gladly welcome effective legislation preventive of adulteration of food and drugs than would medical men. We are, therefore, glad to see that the Committee on legislation, appointed at the meeting above referred to, has issued a call for the meeting of another convention at Washington, January 19, 1888. and it is proposed to urge strongly upon Congress the importance of speedy action.

One of the chief reasons why Congress failed to act when the matter was brought before it several years ago was, because of the action of certain bureaus and departments which wanted to control the matter. No doubt some of this feeling still exists, and this must be recognized as an obstacle to be overcome, but the feeling is, perhaps, now less intense than it was, at all events we hope so.

If we are to have any form of National Health organization this matter would properly come under its supervision, otherwise a special bureau for the purpose should be created. The United States is

now the only civilized country which does not regulate the subject of adulteration of food and drugs, by law, and it is certainly time that Congress and the States should take action in the direction urged by the conventions to which we have referred.

THE ETIOLOGY OF CANCER.

THERE have been of late several attempts made to isolate microörganisms in cancer and sarcoma, but without success. About two weeks ago, the news was cabled that a physician in Berlin had solved the problem, and in our exchanges of December 1st and 5th we have the full report of SCHEURLEN's observations, and the discussion thereon at the Verein für innere Medicin.

Cultures were made, with the usual precautions, from ten mammary cancers, the medium employed being ascitic or hydrocele fluid sterilized for five days. Usually on the third day a growth, in the form of a colorless film, was seen on the surface of the serum, which became in time of a yellow-brown color. The cultures contained a short bacillus, 1.5μ to 2.5μ in length, which stained readily with the ordinary reagents, and showed spores. They could not be detected in the sections when stained, but in the fresh cancer juice, to the practised eye, they were readily recognizable. Six bitches were inoculated by injecting material from the cultures directly into the hinder breast gland, with the result of the formation, in about fourteen days, of a circumscribed tumor the size of a walnut. Two of the dogs were killed, one on the 28th, the other on the 30th day after inoculation, and each showed a small, solid growth in the fatty tissue of the gland, composed of epithelioid cells, in which could be seen the glistening spores of the bacilli.

In the discussion which followed, GUTTMANN expressed himself as satisfied that this was really the cancer bacillus, while A. FRÄNKEL thought it more probable that the form described was not related etiologically to the disease, but represented a secondary invasion of the growth from the outside. In the same number of the *Deutsche medicinische Wochenschrift*, No. 48, SCHILL, of Dresden, states that he has found in cancerous and sarcomatous tissues rod-shaped organisms which grow actively on gelatine and form a rich mycelium. The description does not tally with that given by Scheurlen. Some time ago FREIRE also announced the discovery of a bacillus in connection with malignant growths.

In this connection we may refer to the results of an investigation by BALLANCE and SHATTOCK, published in the *British Medical Journal* of October 29th, to determine whether malignant new growths which have so many and close analogies to the infective granulomata have a micro-parasitic pathology. Cultures were made from twenty-two cancers, the greater number of which remained sterile, and when a growth did occur the organisms were the same as those described and figured by various observers as occurring in the healthy tissues. With this disagreement we shall require additional observations before a final settlement of the question is reached. So many fruitless attempts have been made to inoculate cancer that it seems very remarkable to hear of definite tumors produced by the injection of the cultures. The question hinges on the precise nature and structure of these artificial growths; if really identical with the original tumors and containing similar organisms, the relationship will be as clear as in the case of Koch's bacillus and tubercle; but we must have more definite evidence than has been presented by any of the above named workers.

THE NEW YORK QUARANTINE STATION.

THE "Alesia" arrived at quarantine in New York harbor on the 23d of last September. The press spread the news throughout the country the next day, but, because of general confidence in the thoroughness and efficiency of the establishment and administration of the quarantine at that port, no great alarm was occasioned thereby. On the 26th and 27th of that month the stricken immigrants were visited at their place of detention by the recent United States Cholera Commissioner for the purpose of ascertaining the presence or absence of the cholera bacillus of Koch in their dejecta.

At a meeting of the College of Physicians of Philadelphia, Oct. 5th, Dr. Shakespeare was called upon for a verbal account of his visit to the New York Quarantine Station. After relating the object of his visit and the finding of the comma-bacillus in the stools of the cholera patients, the general state of affairs which casually met his eye was referred to. The reference was so disquieting that the College immediately appointed a committee "to consider the present danger of the importation of cholera into this country, and to secure concerted action among the medical societies of the land in urging upon the State and National authorities the adoption of a uniform and efficient system of quarantine for all exposed ports." This Committee visited the

quarantine establishment at New York, Oct. 8th, and, subsequently, that at Philadelphia and at Baltimore, and on Oct. 28th they presented a report (see THE MEDICAL NEWS, Extra Issue, Oct. 29, 1887). After the dangerous state of affairs they discovered became known, an independent investigation was conducted by Dr. John C. Peters, on behalf of the Medical Society of the County of New York, and on October 26th he made a preliminary report to that body.

Under date of December 31, 1887, the Mayor of New York addressed a letter to the Governor, in which he states that the report of the Philadelphia Committee "was so unfavorable that I deemed it to be my duty to ask the Board of Health of this city to prosecute this investigation, and to invite a Committee of the New York Academy of Medicine to make a thorough examination of the quarantine establishment." The committee last referred to consisted of Drs. C. R. Agnew, E. G. Janeway, Stephen Smith, A. Jacobi, T. Mitchell Prudden, Herman M. Biggs, and Richard H. Derby. They began the investigation on the 19th of December, and their report with accompanying documents was transmitted to Albany with the letter of the Mayor, who in his comments thereon, says: "It discloses a condition of affairs which calls for immediate action of the Legislature. It is evident that neither the city nor the State, nor any portion of the Union is free from the dangers of the spread of contagious diseases, unless the quarantine establishment at this port under the control of the State authorities is at once reformed and reconstructed. The danger of delay is too imminent to admit of any postponement whatever." Mayor Hewitt has requested the Governor to transmit this report to the Legislature, and recommend such action as will secure adequate provision against the dangers of contagious diseases which will be liable to break out as soon as the warm weather approaches.

The report of Dr. Peters, that of the New York State Board of Health to the Governor, and that of the Committee of the New York Academy of Medicine, entirely agree with that of the College of Physicians of Philadelphia. Assuredly, no further testimony should be required to convince even those who have been most inclined to trust to our antiquated and, for the most part, dilapidated quarantine defences, that the country is practically without defence against diseases imported by sea.

The Committee of the New York Academy of Medicine admit that "every citizen of the United States has a personal interest in the condition of New York quarantine." The same admission must be made by every well-informed and unprejudiced mind with regard to every port in this country through which immigrants enter, or wherein infected persons or things arrive.

Why, then, should the direction, expense, and responsibility of a system of common defence against the inroads of foreign diseases, any more than against the invasions of foreign foes, be assumed and borne by those municipalities or States which happen to have a maritime location? Why should the vast majority, who are situated inland, be allowed to shift their responsibilities and obligations, or be denied a voice in the direction of affairs which so greatly concern them? The protection of the public health by maritime quarantine is a matter which interests not merely a narrow belt of seacoast; it seriously concerns the whole of the vast territory between our shores.

Mayor Hewitt has indeed done well. He merits the recognition of all earnest sanitarians, and deserves the thanks and support of his fellow citizens. Until we obtain a thoroughly organized National quarantine, by all means perfect the local establishments which already exist.

But we have again and again pointed out wherein it is impossible even for the best quarantine under local support and control to protect the general welfare to the extent that we have a right to demand. And the reports we have referred to and the Address of the Committee of the College of Physicians strongly fortify our position.

Efforts at reform of local and independent quarantines cannot radically cure evils which are universal. The only remedy is National support and National control of quarantine.

A NEW OPERATION FOR CARCINOMA OF THE STOMACH.

DISSATISFACTION with the published results of gastroenterostomy and Loreta's operation for carcinoma of the stomach in which the disease has extended to the surrounding parts, and thereby excluded excision, has induced BERNAYS, of St. Louis, to resort to free scraping or curetting of the mass when it projects so much into the stomach as to give rise to symptoms of pyloric obstruction.

The operation, which is described in the *Annals of Surgery* for December, 1887, consists in performing gastrostomy, and afterward removing the

growth with the fingers, spoons, and other suitable instruments. The wall of the stomach having been carefully united to that of the belly, the viscus is opened by an incision an inch and a half long, the lips of which are then firmly attached to the lips of the skin incision by many points of silk suture. The stomach having been washed out with warm water, the mass is torn and scraped away, when a current of iced carbolized water is turned into the stomach, through which it is induced to contract and, thereby, arrest the bleeding.

In the first case in which this procedure was resorted to, there was complete relief from the distressing symptoms, and the man did well for three months and a half, when the operation was repeated, with the result of again inducing comfort. In the second case, the result was equally gratifying, and the woman had gained twelve pounds in three months.

As a means of prolonging life and affording relief from the terrible symptoms of obstruction, the operation of Bernays will, we think, commend itself to the practical surgeon. It occupies the same position in regard to carcinoma of the stomach as does free curetting to carcinoma of the uterus and rectum, in the latter of which more particularly it has rendered excellent service.

THE TREATMENT OF DIPHTHERIA BY PERCHLORIDE OF IRON AND MILK.

IN the *Gazette Hebdomadaire* of November 4, 1887, NEKKACH recommends this treatment quite strongly, and, although it is by no means entirely new, it is, perhaps, worthy of notice. By this method he obtained seventeen recoveries out of twenty-two cases of diphtheria involving the larynx and pharynx.

The treatment consists in the administration of from twenty to thirty drops of the liquid perchloride of iron in a glass of pure cold water; or, better still, the patient is to take a large wooden spoonful of this water and iron mixture every few minutes, day and night. Immediately after the ingestion of the drug, the child is to take a large spoonful of cold milk, not boiled or sweetened. Cataplasms of flaxseed meal are also applied to the neck. In some instances the drug is applied directly to the part affected.

The objects attained are stated to be the prevention of further exudate, the production of a desirable astringent contraction of the tissues, and a tonic influence on the entire body.

Nekkach believes that by this means a certain curative effect is produced, that asphyxia is prevented, and that the epidemic tendency is actually decreased. The latter is, of course, exceedingly unlikely, except by a very indirect action.

THE HENDON COW DISEASE AND SCARLET FEVER.

VERY great interest was excited in England last year by an outbreak of scarlet fever in Marleybone, which, it was thought by DR. KLEIN and others, could be directly traced to a disease in the cows of a certain dairy at Hendon. Investigation showed that there was a specific, contagious, and infectious disease which could be communicated to healthy cows, and also by inoculation to man. It was believed to be distinct from cowpox, and Dr. Klein's experiments led him to conclude that it closely resembled scarlatina, and that there was a real danger of infection when the milk of diseased animals was used as food. We have already referred to this at length in THE NEWS of July 9, 1887.

Serious doubts existed in the minds of many as to the correctness of Dr. Klein's conclusions, and the Agricultural Department of the Privy Council commissioned Professor Crookshank to investigate the subject, and his report was read at a special meeting of the Pathological Society of London, and appears in the *British Medical Journal* of December 17th. He has studied two outbreaks identical in character with the Hendon disease, and has repeated Dr. Klein's experiments, but has reached the important conclusion that the affection is cowpox, and has nothing whatever to do with the propagation of scarlet fever. Very fortunately he was able to obtain a case of recent inoculation in one of the cow men, which proved to be a typical pox, and the lymph taken from it produced in calves characteristic vaccinia. There were no cases of scarlet fever on the farms or in the district to which the milk of the infected herd was distributed.

Whether or not the micrococcus which was described by Klein, and also found by Crookshank, represents the specific organism of vaccinia must be determined by subsequent investigations; and meanwhile the Agricultural Department of the Privy Council and Dr. Crookshank are to be congratulated on making out what was apparently a most obscure bovine disease.

IN New York City, on December 29, the Sloane Maternity and Vanderbilt Clinic were dedicated, and

made serviceable to the cause of medical teaching, at the College of Physicians and Surgeons. The medical address by Dr. T. Gaillard Thomas was an eloquent oration. Prof. Dalton and the Rev. Dr. John Hall also participated in the ceremony. An endowment has been promised whereby the beds will be free perpetually at the Maternity. Dr. James W. Markoe has been appointed house physician.

THE New York County Medical Society having been importuned to make an example of one of the "faith-healers," the counsel of the Society, Mr. Purrington, explains that the existing statutes do not aim at the punishment of this kind of imposture, when there is not a positive employment of medicine, or operation of surgery. The faithists have been brought into prominence lately by having a patient commit suicide at one of their "homes," and by the loss by death of a wealthy patient, whose case got into the "papers," whom friends believed might have been cured by prompt medical attendance.

DR. GEORGE D. HERSEY, of Providence, has been appointed visiting surgeon to the Rhode Island Hospital in place of Dr. Edward T. Caswell, deceased.

SOCIETY PROCEEDINGS.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Stated Meeting, December 14, 1887.

THE PRESIDENT, J. SOLIS-COHEN, M.D., IN THE CHAIR.

DR. J. H. MUSSER, M.D., read a paper on

THE MORBID ANATOMY OF PERI-CÆCAL INFLAMMATION.

Much confusion, he said, appears to exist in regard to the nomenclature of the inflammatory affections of the region we are about to consider. It may, therefore, be well to define the various terms. By typhlitis we understand inflammation of the cæcum; by peri-typhlitis, inflammation of the peritoneum covering the cæcum; by para-typhlitis, inflammation of the connective tissue behind the cæcum. The term typhlitis is often used to include inflammation both of the cæcum and of the appendix. The term appendicitis is used for inflammation of the appendix, appendicular peritonitis for typhlitis of the appendix and its serous covering, and para-typhlitis for inflammation of the connective tissue around the appendix, or peri-cæcal inflammation.

Typhlitis has been considered by systematic writers to be a frequent affection, and yet it is difficult for pathologists to find records of post-mortems in which this condition has been found. It is true that some writers, especially the Germans, have described cases, particularly of stercoral typhlitis, in which inflammation and ulceration of the mucous membrane of the cæcum, by pressure from fecal impaction, was present. Most of us will, however, agree with Fagge that typhlitis is a good general expression used for all varieties of inflammation occurring in the right iliac fossa, but that in the majority of cases the correct term should be appendicitis. Wilkes and Fagge consider that the difference in degree of the inflammation alone accounts for the difference in the symptoms, and that the largest number of cases are due primarily to inflammation of the appendix. Perforation of the cæcum is most rare, and Fitz, in a most extensive research, was able to find but three cases, and in these instances, due to foreign bodies.

Inflammation of the appendix occurs both of the simple catarrhal and of the ulcerative type. Catarrhal inflammation with succeeding ulceration, local peritonitis, and, finally, perforation, also occurs; and the following conditions are generally found after death. In the first place, on section of the abdominal walls there is found, especially in the right iliac region, an œdematous state of the tissues; not only may there be serous œdema, but there may also be infiltration of pus, due to the burrowing from the primary abscess. The peritoneum, if involved, will exhibit an intense degree of inflammation with the characteristic injection, sometimes general, sometimes limited, and more particularly to the right iliac fossa and the pelvis. Serum will be found in the peritoneal cavity, and in some instances pus; blood is occasionally found. In the more severe forms, especially, large flakes of lymph cover the intestines, the parietal peritoneum, and the abdominal organs. The intestines are also more or less adherent to each other, depending upon the duration and the degree of the inflammation. The location of the abscess, for it is usually circumscribed, depends upon the position of the cæcum. There are three positions in which it is most frequently found—either in the right iliac fossa just above Poupart's ligament, or behind the cæcum, or in the pelvis. The size of the abscess varies, sometimes containing only two or three ounces of pus, and in other instances as much as a pint or more has been removed. The walls of the abscess differ according to its position. The appendix is always found in the abscess, and has undergone changes varying in degree with the duration and severity of the inflammation. Inflammation and ulceration of the mucous membrane, serous or purulent infiltration of the walls, with perforative ulceration and encysted or localized peritonitis, are discovered. In some instances a portion has sloughed entirely off and cannot be found, having undergone dissolution; in others it is found as a soft mass of necrosed tissue. The perforation varies in size; sometimes it completely surrounds the appendix, or even severs it in two, or it is sufficiently large to admit a probe only, while even in other instancs it can scarcely be detected. Sometimes two or more perforations are found, and frequently they are covered by recent lymph. The canal of the appendix is very often dilated. We usually find in the canal, near the cæcum, a foreign body; it may, however, be found in the abscess. There is one point of importance in reference to the surgery of this region, and that is, that the perforation usually occurs within one and one-half or two inches of the colon. Whatever may be the length of the appendix, the perforation is, as a rule, found at the point just indicated.

There are, of course, many cases which do not terminate

fatally. Under such circumstances resolution takes place, or the abscess becomes encysted or ruptures into some neighboring organ. The abscess may discharge through the abdominal wall, through the scrotum, into the hip-joint, through the loin or the perineum, or in other directions. Sometimes the pus burrows upward, even as high as and into the pleural cavity. The bladder is a favorite seat for the rupture of such abscesses.

That cure may take place in cases of perforation of the vermiform appendix, was distinctly shown by a specimen in the museum of the Pennsylvania Hospital. And while it may appear to be a refinement of terms to differentiate between typhlitis and appendicitis, it is almost necessary in order that a correct and well-defined appreciation of the pathology be determined, so that early and proper treatment may be instituted. Unless such a refinement be made, cases of this kind will be frequently treated as simple typhlitis, whereas in ninety per cent., or perhaps a larger proportion, they are cases of inflammation of the appendix.

DR. WILLIAM PEPPER made the following remarks on the

DIAGNOSIS OF PERI-CÆCAL INFLAMMATION.

The appendix presents evidences of disease in a very large number of indifferent autopsies. He remembered the report of a series of three hundred autopsies, in which there were signs of disease of the appendix in thirty-three per cent., although in none of these was there a history of typhlitis. We have this little organ, singularly useless physiologically so far as we know, placed in a singularly unfavorable position anatomically, very liable to become impacted, so formed that escape of its contents is very difficult, and very prone to become diseased. We must recognize the fact that the appendix is often diseased when we have no reason to suspect such a condition. He cannot agree, however, that the cæcum also is not often the seat of disease. He had collected a number of instances of independent cæcal disease, where the cæcum alone presented lesions, sometimes going on to chronic inflammation, ulceration, and perforation. The real condition of things seems to be this. In the first place, there are many cases of mild appendicitis which cannot be recognized during life; in the second place, there are a considerable number of cases of typhlitis where the symptoms are chiefly due to inflammation of the walls of the cæcum and of the peri-cæcal connective tissue, which end in recovery. It is impossible in these cases to determine what proportion has been due to appendicitis. Finally, there are also a good many cases of severe appendicitis resulting in ulceration and perforation, with the formation of circumscribed abscess or of general peritonitis. If we could accept the view that perforation of the appendix, leading to peri-typhlitis or para-typhlitis often resulted in recovery by resolution, it would be a matter of comparative indifference where the lesion was chiefly situated; but do clinical experience and anatomical records justify the view, that perforation of the appendix, followed by peri- and para-typhlitis, often ends in resolution? It is true that he had found one specimen and that others have been placed on record where perforation of the appendix has not been followed by grave results, but do these amount to anything comparable with the great mass of cases where lesions of the appendix have occurred with peritonitis and fatal result unless relieved by operation. We have to recognize that while in typhlitis, peri-typhlitis, and para-typhlitis, in all probability appendicitis always exists, yet it is often present in only a very mild degree, and can cause only a small portion of the symptoms. This conception seems necessary to a correct diagnosis of these lesions; and it is necessary in guiding our treatment.

There appear, then, to be two classes of cases. In one the affection is more limited to the walls of the cæcum and the peri-cæcal connective tissue, and the appendix is affected to a comparatively slight degree. We have no record as to the frequency of such cases. The record is not to be sought on the post-mortem table, for the large proportion of these cases, if properly treated from the beginning, end in resolution. He has the records of scores of such cases, the vast majority of which ended in resolution. These cases are marked by pain as the initial symptom, not excruciating in character, not associated with evidences of collapse, often accompanied by nausea and vomiting, and with elevation of temperature, which continues to rise until decided fever is present. With these symptoms there is excruciating tenderness in the right iliac fossa, a sense of fulness and induration, not rarely with dorsal decubitus and flexed thigh, with a constipated condition of the bowels, possibly preceded by one or two irritative movements during the first day, and with these there is considerable acceleration of the pulse. In proportion as the induration and swelling are early and marked, the chances are that the appendix is not seriously involved, but that the affection is chiefly one of inflammation of the walls of the cæcum and of the peri-cæcal connective tissue with exudation, and usually accompanied with considerable fecal impaction of the cæcum.

If absolute rest be insisted upon, if abstinence from food and absolute avoidance of interference with the state of the bowels be adhered to, if local depletion be employed, if counter-irritation followed by the application of the ice-bag, or warm fomentations be employed, and if the internal use of opium and mercury be begun early, the vast majority of such cases terminate in resolution and complete recovery, if the convalescent is properly treated—that is, if these restrictions be insisted upon until the sensibility of the part is entirely removed. The well-known tendency to the recurrence of typhlitis is largely dependent upon the management of the convalescence from the primary attack.

On the other hand, we know very well that such cases not rarely go on without resolving, that the induration extends, that the symptoms become aggravated and possibly are such as to indicate suppuration, and that at periods varying from seven to fifteen days pus formation occurs. Such cases demand operative interference, and are successfully treated by the Parker operation. The existence of pus can often be demonstrated by exploratory puncture with a fine aspirator needle.

There is a second class of cases of an entirely opposite character, with which we are all equally familiar. Here the patient may apparently have been in almost perfect health, for perforation of the appendix may occur without any previous symptoms of which the patient had complained. But in these cases there has been a catarrhal appendicitis; the fecal matter which is present in nearly every healthy appendix, is no longer able to circulate and escape, because the outlet is partially closed by the swelling of the mucous membrane; the pent-up secre-

tions and the irritating fecal matter excite more serious inflammation in the walls of the appendix; ulceration is established, and, finally, perforation occurs, and the symptoms of the attack begin. He has rarely seen a fatal case of disease of the appendix where there was nôt stenosis of its orifice, and he thinks that, to a large extent, it is this tendency to closure, and the accumulation of the secretions and of fecal matter, that causes the most serious type of inflammation and the occurrence of perforative appendicitis.

The first symptom in these cases is usually intense and excruciating pain, so severe at times as to cause collapse, occasionally so severe as to be followed by death in a few hours. Following this there is the rapid development of the signs of peritonitis. The pulse becomes frequent. There is marked tenderness, not in the iliac region only, but also toward the middle of the abdomen. The belly becomes distended, but there is no induration to be felt; there may even be no fulness in the right ileo-cæcal region. The appendix often lies under the cæcum, and he has frequently percussed these cases with great care without finding any evidence of dulness or of induration. After the occurrence of the initial pain, the fever may not rise very rapidly. There may be only moderate febrile reaction for one, two, or three days, associated with continued, moderate pain simulating an ordinary catarrhal attack with intestinal colic. For two or three days these cases may be viewed as not being seriously ill, so delusive may be the symptoms after the subsidence of the initial pain. In these cases there is absence of ileo-cæcal infiltration, or induration, or tumor, or prominence, or dulness on percussion. There is in these cases a less degree of vomiting than in the first class of cases mentioned. The vomiting is often rare, and only induced when the stomach is taxed. The bowels are quiet, but not so obstinately constipated and not so strongly resistant to the action of laxatives as in typhlitis, with more or less impaction of the cæcum. After a time, which varies with the intensity of the attack and the direction which the exuded matter has taken, there appear the symptoms of a rapidly spreading, general peritonitis. The belly becomes greatly distended and tender, the coils of intestine are outlined through the tightly stretched skin. The vomiting becomes frequent, the temperature rises, the pulse grows thready and rapid, and we have the familiar signs of general peritonitis. These cases end fatally, from exhaustion, in from five to ten days.

Here are two groups of cases which seem to differ not only in degree, but also to differ in the seat of their lesion and the character of that lesion. He cannot believe that in any great number of cases of the first group there is perforation of the appendix. Yet, unless perforation is present, we have seen that all the other lesions of the appendix may exist without the production of any symptoms. Therefore, he cannot attribute to ordinary appendicitis the symptoms of peri-cæcal inflammation which mark the first group of cases. These symptoms we must assign to the inflammation of the walls of the cæcum and of the peri-cæcal connective tissue in chief part.

It is, therefore, of momentous importance that we should be able to diagnose the sort of case that we have to deal with, and at the earliest moment. He should say, that in proportion as the tumor, prominence, induration, and dulness are marked, delay is safe, especially if rectal examination does not indicate any fulness on the right side of the roof of the pelvis. If this is present, it indicates an amount of exudation which will end in abscess, and is a strong indication for operation. If digital examination, pushed if necessary to the extent of the introduction of the whole hand, reveals no fulness in the roof of the pelvis, delay for several days is justifiable, and with such treatment as indicated, the symptoms will, in the majority of cases, subside; and, although the case is fraught with great anxiety, resolution will begin, the symptoms will become milder, and the patient recover, and under proper treatment the part will be restored to absolute health without relapse. Even if frequent relapses occur—and he had seen as many as fifteen or eighteen in the same individual—complete recovery may follow a protracted course of treatment with absolute rest, rigidly restricted diet, constant counter-irritation, and suitable alterative treatment internally.

Of course if, after waiting a few days, there is no evidence of the commencement of resolution; if the fever is sustained, particularly if it assume a hectic type, we know from experience that suppuration will not be long postponed. Exploratory puncture should be made, and operation should follow without delay.

The most important question to be considered is, What is the earliest moment at which we can establish the diagnosis? The initial symptoms give us some indication of the seat and the gravity of the attack. Typhlitis and peri-typhlitis soon offer demonstrable symptoms, but as the appendix is hidden under the intestine, the symptoms of perforated appendicitis are often obscure for two or three days. The most careful palpation may fail to show the slightest fulness. The patient may complain of pain over the cæcum, or over the hypogastrium. External examination does not aid us in the diagnosis. Are there any special features which will help us? He would again refer to the importance of the rectal examination. Early and oft-repeated rectal examination is the most important diagnostic means we possess in this class of affections. Often, on opening the body after death, there is no appearance of peritonitis in the exposed coils of intestine. There is no inflammatory process seen outside of the cæcum, and nothing is found until the cæcum is lifted up, when it is discovered that the inflammation is behind it, and extends downward to the pelvis. Sometimes, on removing a layer of lymph, a pelvis filled with pus is disclosed. In such cases, if rectal examination should give a sense of distention of the right side of the pelvic roof, might not a puncture be made with a curved exploring needle introduced through the rectum? In this way we might demonstrate the presence of pus, when it would not be possible to do so through the external abdominal wall.

In many of these cases there has seemed to be an unusual abundance of urine and an increased frequency of urination. He thinks that the former is associated with the absence of vomiting. In typhlitis and peri-typhlitis, there is often so much vomiting that very little liquid is absorbed, and the urine becomes concentrated. He had seen cases of perforation of the appendix, where the urine was voided at intervals of an hour or an hour and a half, the total amounting to a large quantity.

Again, it has seemed to him that in perforation the pain is more apt to extend to the middle line of the abdomen, and sometimes into the genitals, especially into the right testicle and spermatic cord.

The agony of pain which marks the initial lesion, the development of fever, the acceleration of the pulse, the distention of the abdomen, the pain referred to some point in the ileo-cæcal region, the comparative rarity of vomiting, the absence of induration and tumor, possibly, the ability to detect fulness or induration in the roof of the pelvis by rectal examination, the frequent micturition with a free supply of urine, the pain possibly radiating in the direction of the genitals, have been, in the majority of cases, the most marked symptoms.

Suppuration occurs in these cases very early, even earlier than in the other group of cases. In one case in which Dr. Keen operated for him as early as the close of the third day, perhaps the earliest operation on record, a pint of pus was found in the pelvis.

The point to which we should bend our exertions should be to determine the early diagnostic symptoms of these two varieties of cæcal inflammation, to see whether there is a constancy in the description that he has given of the first type of inflammation of the walls of the cæcum which, under proper treatment, offers a considerable hope of recovery. We should, in particular, strive to point out the indications for operation in the two classes of cases.

He would ask if general peritonitis may not be a positive indication for instant operation. It has been asserted that general peritonitis is not a contra-indication to laparotomy under other circumstances. If this is the case, the development of general peritonitis in a case of inflammation of the cæcal region would at once indicate operation, for after this develops death results under medical treatment.

DR. THOMAS G. MORTON made the following remarks on

THE TREATMENT OF PERI-CÆCAL INFLAMMATION.

For practical purposes the treatment must be divided into two subdivisions, that of the pre-purulent, and that of the post-purulent stage.

The treatment of the pre-purulent, irritative, or simple inflammatory disorders of the cæcum and its surroundings, or appendix, should consist of rest in bed, restriction of diet to nourishing liquids, hot poultices or fomentations frequently replaced upon the parts, perhaps local depletion, and possibly the hypodermatic exhibition of morphia to control pain; whilst the bowels should be kept open and free from accumulations of gas and feces by the administration of salines and enemas—perhaps with the addition of turpentine to the latter.

Those disposed to cavil at the advice just given, he would ask: Shall we keep the bowels in liquid condition, and so best prepared to resist peritonitis, should it occur, whilst at the same time the mere draining of fluid from the intestines and surrounding parts would influence for the better the peri-cæcal inflammation? or shall we paralyze and congest, and inflate the bowels by the old-fashioned "splinting" treatment, and thus beckon on peritonitis?

Pain of intense character would often be as much an indication for operative relief as for morphia.

Prompt resolution should take place in cases which are not to go on to the stage of pus formation; and very long continuation of symptoms, or relapses, or recurrences, would be strong indications for surgical interference.

The presence of such tedious recovery, relapse, or recurrence would point to the probable presence of conditions exceedingly dangerous to the patient from liability to general peritonitis or perforation at any time; they further would point, as a rule, to the appendix as the source of irritation and danger. Indeed, in man, that worse than useless appendage must be regarded as the root of most evil in the region under consideration.

To illustrate this point by a single impressive instance, he quoted the case of a woman who, for a long time, had been having mild attacks of abdominal pain, located in the region of the cæcum, which had usually yielded with great promptitude to anodynes. During the course of the last attack of that nature, violent symptoms of perforation and general peritonitis came on. He did not see her until two days after this unfortunate accident; but, though she was then in a most desperate condition, he advised operation as her only chance, and forthwith performed abdominal section. The appendix was found perforated in two places, and violent general purulent peritonitis going on. She died a few hours afterward, but he felt better satisfied that the operation had been performed.

He then considered the treatment of the post-purulent stage.

In the great majority of instances, the presence of even a minute amount of pus so near to the peritoneum would be of vastly more risk to the patient than that of abdominal section for its relief. Hence, he would operate whenever the diagnosis of pus had been made—occasionally even without positive diagnosis.

Many other risks are to be taken rather than those of purulent peritonitis, for early interference will save most if not nearly all cases from this latter dread complication, while the danger of operation becomes slight compared to that of rampant abdominal inflammation.

Local or general peritonitis supervening in a person who has a history of cæcal trouble, or starting during a first attack, would more than justify operation.

At a later or even perhaps chronic stage of the disorder, all available diagnostic skill must be exerted when a peri-cæcal abscess may have pointed in an anomalous situation, and we must ever adhere to the modern surgical rule, always to attack pus at its source if possible. When the cæcum is normally placed, this is always feasible, if the disease be recognized.

Coming now to speak of actual operative measures, the patient, as a matter of course, must be got into the best possible condition, and surgically clean by the usual methods of attempting these ends. Asepsis should rigidly prevail throughout.

The aspirating needle must never be used, for if it does not find pus we cannot be sure that none is present, whilst its own dangers are not inconsiderable. In these cases it is a poor and especially unsafe diagnostic resource.

The abdominal incision should be lateral, *not* median. For if median the peritoneal cavity would often be needlessly opened, and the cæcum and appendix cannot well be reached or dealt with through it. But if lateral it can be made of less size, circumscribed abscesses will frequently be found before the peritoneum is reached, and at its base all necessary manipulations can be made upon the cæcum, appendix, and surrounding parts without opening the peritoneal cavity, whilst should the abscess or ulcer have reached that cavity the intestines, etc., can just as well be examined and cleansed through a lateral as a median incision.

The favored or lateral incision should begin at a point an inch above Poupart's ligament and to the outer side of the right linea semilunaris, be continued in a vertical direction upward about four inches, and carried down through the parietal muscles until pus, cæcum, or peritoneum encircling that organ be reached. Then the wound can be enlarged if necessary. If pus be found, wash its containing cavity clean, and get a clear view and careful examination of the cæcum and appendix. The latter is almost always the seat of trouble, and, perhaps, it would be well always to excise it whilst we have the chance, for any cæcal trouble will be likely in time to excite disorder of its appendage. Without a doubt it should be so treated if found inflamed, perforated, or harboring a foreign body. This can best be accomplished by ligating it as close as possible to its cæcal attachment and cutting it off. Cæcal perforations, if found, should be closed by Lembert sutures, whilst ulcers, which may be present but have not perforated, should by the same means be turned into the bowel lumen. If the general peritoneal cavity has not been involved, the abscess or cæcum or what not in view, should be gently curetted, washed out with a one to one thousand bichloride of mercury solution, a large glass or rubber drain introduced, and the abdominal wound closed around it with silk sutures, and a dressing superimposed.

If the peritoneum has become involved, and but a short time before the operation, the whole abdominal cavity must be most thoroughly washed out with hot (105° to 110°) distilled water, or one to ten thousand bichloride of mercury solution, and cleansed with sponges, and the foreign body, if that has been the source of trouble, searched for. Should peritonitis be found further advanced the intestines must be withdrawn, and all adhesions parted with the finger or knife during the process of cleansing and before they are returned to the peritoneal cavity. In the case of general peritonitis a glass drain must be carried to the bottom of the pelvis and kept in working order by means of absorbent cotton ropes acting by capillarity. If a second tube is not used for the superficial or peri-cæcal abscess cavity the drain going to the pelvis must have perforations as high in it as the level of the cæcum and any surrounding trouble.

If the inflammation should be caused by the presence of a foreign body in the cæcum itself or by impaction of feces, they must be either excised or urged by prudent force along the bowel. In their operative removal a simple incision, afterward united by Lembert sutures, would answer every purpose.

If portions of the cæcum have sloughed or become gangrenous and the breaches of continuity are too large to approximate with Lembert sutures without producing dangerous constriction of the gut, we will have to content ourselves with the formation of an artificial anus.

Post-operative treatment would consist in keeping the bowels in a fairly soluble condition, the tube clean, and in meeting threatening peritonitis by active purgation.

DR. W. W. KEEN said a word or two with reference to the diagnosis. He had seen many of these cases, and he has yet to see one in which a distinct tumor was present. As a rule, tumefaction will be found, but no tumor. Nor is any fluctuation found in these cases. In a case which he saw in consultation eight years ago, there had been extensive infiltration in the right iliac fossa, for three weeks; but there was absolutely no tumor and no fluctuation; yet, when the cavity was opened, a pint of pus was found. We should make up our minds positively, in reference to the surgical treatment of these cases, that we are not to wait for the formation of a distinct tumor or the presence of distinct fluctuation.

Another symptom, to which Dr. Pepper alluded, he has not found a constant one—and it is surprising that it is not—that is, the flexing of the right thigh. Not only may this be so, but all the other symptoms may be fading, and yet pus be present. In the *Medical and Surgical Reporter* for the early part of 1886, he reported a case in which he operated on the sixth day. The symptoms had followed the ingestion of a large quantity of grapes, the temperature reaching 102.8°. The fever and pain had nearly disappeared, and the other symptoms had ameliorated to such an extent that convalescence seemed almost established. Here the diagnosis and treatment hinged upon one measure, which he was rather surprised to hear Dr. Morton condemn—that is, the use of the aspirator. In these, and certain other cases, the use of the hypodermatic syringe for exploratory purposes is strongly to be commended. If it penetrates any normal structure, it will do no harm; and if it reaches pus, it gives a positive indication for operation.

The time at which pus forms is often extremely early. He had had two cases in which on the sixth day a large quantity of pus was found. Both of these cases made excellent recoveries. In the case seen with Dr. Pepper, pus was found as early as the close of the third day.

He was glad to hear Dr. Pepper refer so strongly to the importance of the rectal examination in these cases. The appendix often lies directly on the brim of the pelvis; if the perforation be near the cæcum, the pus will find its easiest outlet, in not a few cases, toward the cavity of the pelvis. It is, therefore, in the majority of cases, within easy reach of the finger; and, in an urgent case, if it cannot be reached by the finger, the introduction of the hand, provided it be a reasonably small one, may be practised.

Both Dr. Pepper and Dr. Morton have alluded to operation in these cases. As is well known the operation of Dr. Willard Parker consists of an incision not vertical, but parallel, to Poupart's ligament. This incision will do very well in the majority of cases, when the lesion is situated in the right iliac fossa proper. Either this or the vertical incision to which Dr. Morton alluded, may be selected. As we go further and do not find pus, the hypodermatic syringe may be used for purposes of further exploration. In the second class of cases alluded to by Dr. Pepper, where there is perforation of the appendix, where there is absence of induration in the right iliac fossa, and especially if there is general peritonitis, he should certainly favor median and not lateral laparotomy. The latter does not give so simple and bloodless an operation; nor does it give us so easy access to the cavity of the pelvis for exploration, for drainage, and for the surgical manipulations that may be necessary. In the case he operated on one year ago, for Dr. Pepper, he regretted that he did not do a median operation at once, instead of doing the lateral operation. The median operation gives every facility for operation on the viscera in the right iliac fossa, and especially it gives access to the appendix. Unless the indications for lateral operation be strong, he should favor the median incision.

He should hesitate to perform puncture of the rectum.

It would be far better to do a laparotomy, rather than in the dark, not knowing what the lesion was, simply to drain the cavity of the pelvis, as we would do by rectal puncture. We want to know what condition exists; we want to find out the exact facts. Exploratory operation is not only constantly done, but done, he might almost say, without any additional risk to the patient, and it gives us the means of dealing with whatever lesion we may find. If the appendix is perforated, we should ligate it and remove the diseased portion. If the cæcum should prove to be the seat of perforation, we should close the opening with the Lembert suture. If the perforation is too large for this, it will be necessary to follow the plan suggested by Dr. Morton, and make an artificial anus.

DR. W. HUNT said that the suggestion has been made that treatment with salines should take the place of the opium treatment in these cases, especially after operation. This is a point on which more experience is needed before we can reach a decision. When we take into consideration the fact that several cases of perforation of the appendix have been known to get well under the opium treatment, as proved by post-mortems long after, and also the fact that the mortality after the adoption of that treatment years ago, fell, to a large extent, we should not hastily abandon it.

With reference to the operation of ligating and cutting off the appendix, it seemed to him that by this method it might possibly be found that only mucous surfaces had been brought into contact and adhesion not secured. It would be better after removing the diseased portion to close the stump by the Lembert suture.

DR. WM. OSLER said that the important point in connection with perforative appendicitis is, that in the majority of cases the perforation occurs first with slight inflammation in the neighborhood, perhaps lasting a few weeks or months, without exciting any special symptoms; and the first symptoms to which the attention of the physician is called, and which are rapidly followed by peritonitis, are those of perforation not of the appendix, but of the appendiceal abscess. In five instances of peri-cæcal abscess which he had examined, in every one of them there was evidence that the abscess had lasted some time. That this is the case is evident from the fact that there are many instances—of which he had had three—in which there was no perforation into the peritoneum, and no peritonitis occurred, yet there were signs of septic fever. The perforation had led not to general peritonitis, but to inflammation of the portal branches and diffuse abscess of the liver. This is a point which has not been sufficiently recognized in dealing with these cases of perforation of the appendix.

With regard to cæcal disease, we have all seen the cases which have been described by Dr. Pepper. They result, in the majority of instances, from impaction; and the induration which we feel is in most cases fecal. It is important to distinguish between these cases and appendicitis, for the majority recover. We, however, learn from post-mortem examinations that a considerable number of cases of perforation of the appendix also get well—cases, too, in which there have been no special symptoms.

He had had three cases of peri-cæcal abscess from disease of the cæcum. Two were cases of round ulcer of the cæcum. In both the cæcum was the only part involved, the ulcer not being larger than a quarter of a dollar. In both instances the perforation was posterior and had excited suppuration in the tissues as high as the kidney. In one instance the abscess had been opened in the loin and had discharged very freely. In the third case the perforation was due to cancerous ulceration. There was in this case a large perforation just beyond the orifice of the ileum.

DR. J. C. WILSON desired to call attention to a group of cases in which there is more or less extensive and general peritonitis, and this peritonitis may be due, as Dr. Osler has pointed out, either to rupture of a peri-cæcal abscess or to primary rupture of the appendix, with the escape of its contents into the peritoneal cavity. He believes that in this form we have to deal with two essentially different processes. In the first place, we have those cases in which we have rapidly developing peritonitis as the result of the escape of the contents of the appendix, or of a peri-cæcal abscess, and these cases demand the surgical interference which has been indicated. He believes that there is another class of these cases in which the peritoneal process results, not in purulent exudation finding its way down into the pelvis, but in plastic exudation from the beginning. Here we have the typical symptoms of general peritonitis without the formation of pus. These cases, he believes, not only terminate in recovery, but do better without than with surgical interference.

MONTREAL MEDICO-CHIRURGICAL SOCIETY.

Stated Meeting, December 23, 1887.

THE PRESIDENT, JAMES PERRIGO, M.D., IN THE CHAIR.

DR. G. WESLEY MILLS read a paper on

PHYSIOLOGICAL AND PATHOLOGICAL REVERSION.

He said the terms physiological and pathological reversion had not been used by Darwin or other writers on evolution. Physiological reversion is a return to a condition functionally similar, if not identical with, that existing in some lower form; pathological reversion is a like result from disease. The *embryo* is physiologically as well as morphologically allied to aquatic animals and lower forms generally. In *old age* there are many reversions to conditions existing in the infant or lower groups of animals.

In slow natural death there is a series of reversions to conditions present in lower groups, the individuals sinking lower and lower in the scale of life. The mammals become more and more cold-blooded animals. In hypnotism, somnambulism, hibernation, and natural sleep there is most pronounced physiological reversion. In certain cases of disease (hysteria, etc.) the *respiratory* function of the alimentary canal, retained to a certain degree, is exaggerated, so that there is a reversion to a condition in lower forms, as the fish and turtle (pharyngeal respiration).

In the *renal* system, when the urine secreted is of a high specific gravity, as in fever, and in instances in which there is excess of uric acid, there is reversion in the one case to a condition found in lower animals, in the other to lower groups of vertebrates, as birds and serpents.

There may be in man a reversion in the *digestive* system to a condition allied to the regurgitation of food in birds or the ruminants.

In anæmia, leukæmia, chlorosis with defective development of the vascular mechanism, and cyanosis, there is pronounced reversion, either to the functional condition of lower vertebrates, or of invertebrates.

The same applies to those forms of cardiac disease involving regurgitations and imperfectly aërated blood.

In diseases of the *nervous* system reversion is especially well seen. An animal poisoned by curare is reduced to the condition of a cold-blooded animal, so far as heat production is concerned. Animals, from which considerable portions of the cerebral lobes have been removed, are more machine-like, and thus resemble creatures much lower in the scale, as is proved by Goltz's experiments. In lesions of the cerebrum the more voluntary muscles lose power first, and the more extensive the lesion the lower in the scale the animal sinks; man leads a mere vegetative existence.

In all the above cases, and many more reversions which can be produced experimentally on animals, the question always arises, Why is the change of the peculiar nature it proves to be?

Unless we take into account the derivation of mammals, including man, from lower forms—a derivation which is physiological as well as morphological—it does not seem possible to interpret the true significance of the facts.

DR. SHEPHERD said that for many years he had been interested in the subject of evolution, but the point of view from which he had studied it had been entirely morphological. He believed that the physiological aspect of the subject had not been much regarded, and that, therefore, he considered the points brought out by the reader of the paper to be, to a great extent, new; they were at least new to him, and he thought that Dr. Mills had opened up a wide field for investigation. He himself was a thorough believer in evolution, for how otherwise could he explain the existence in man of rudimentary organs, anomalous and useless muscles, etc., which have their perfectly developed condition in animals lower in the scale, and in them fulfil a definite purpose.

He was aware that in the development of the embryo we saw the compressed history of the development of the race, but the statement made by the reader of the paper that in the death of the individual this history was read backward, was new to him.

DR. STEWART had listened with much interest to the paper, which in many of its features was entirely new. The reader had not, however, drawn attention to the fact that in persons dying of old age the death was through the bloodvessels; some one had said that death from old age was the evolution of dissolution.

DR. RUTTAN then read a paper entitled

SOME LABORATORY NOTES ON PAPOID DIGESTION.

It embodied the results of some experiments recently made by him on this interesting ferment. After giving a résumé of the work done by others, and calling attention to the contradictory nature of many of the published results, he first showed that papoid contained a proteolytic ferment, which was most active in neutral or faintly alkaline solution, its maximum activity being seen in an alkaline solution of a two per cent. sodium carbonate. A higher percentage of alkali retarded its action, while in an acid solution of three per cent. hydrochloric acid it seemed wholly devoid of peptonizing properties. He did not believe that papoid would do true digestive work in an acid medium. Comparing its proteolytic action with that of pepsin and pancreatin, he found that it was a more rapid proteolytic agent in neutral solutions than either.

In a series of experiments in which these three ferments were placed, each in conditions most favorable to its functional activity, he found that papoid was but little inferior to either in peptonizing power. He tried a number of experiments on diphtheritic membrane, and found that in a neutral solution, a five per cent. solution of papoid digested 8 grains of diphtheritic membrane in twenty-six hours, and 5 grains in twenty-four hours; in a parallel experiment in a neutral solution, it had only partially digested a similar quantity of membrane in thirty hours. In all the experiments the digestions were made with 15 grains of fibrin thoroughly washed and reduced to fine, dry powder. This was softened by boiling water after weighing and allowed to stand twenty-four hours before it was used for digestion. He thought that the discordant results obtained by many could be explained by the use of such substances as cooked meat, boiled white of egg, etc., as materials to be digested, as the amount of these substances digested would be very difficult to estimate accurately.

In concluding he said that while papoid would not do all that was claimed for it, it was still a very useful addition to the therapeutics of dyspepsia. It was probably, for the experiments made by him, not seriously injured by being kept in an acid medium for two to three hours; hence, although its action might be nil in the stomach, it would be capable of resuming its activity in leaving that viscus well mixed with the food. Its advantages in diphtheria as a local agent are threefold: first, it acts in a neutral solution better than any of the other ferments; secondly, it is not affected by the accumulation of the products of digestion (it acts best in very concentrated fluids); thirdly, it is antiseptic as well, and completely destroys the peculiar fetor of the disease.

NEWS ITEMS.

The Just Conclusion of a Malpractice Suit.—The suit of Mrs. Stogdale, against Dr. W. H. Baker, for malpractice in the removal of the ovaries, at the Boston Free Hospital for Women, in which $10,000 damages were claimed, has been decided in the physician's favor, after four trials. A remarkable and excellent feature of the trial was the action taken by the counsel for the defence, obliging the plaintiff to give bonds for costs, if the verdict was against her.

The courage and fortitude displayed by the defendant in this case, are worthy of imitation by others under like circumstances.

Leprosy in America.—*The Sanitary News* reports cases of leprosy as coming to the notice of the authorities at Savannah, and in a small town in Kansas.

A Suit for Typhoid Infection.—Suits at law having a sanitary bearing are becoming very common. The latest one is reported from Indianapolis. William Shiel has sued John Best for $1500 in damages. Shiel's family was prostrated with typhoid fever, and he charges that Best emptied slops and general filth into a cesspool so

close to his house that the disease was the result. Best claims that Shiel constructed a vault but a few inches deep, and that a heavy rain washed its contents into the cellar of Shiel's house, and that that was the source of the disease.—*Sanitary News*, December 24, 1887.

Family Hygiene during Infectious Disease.—*The Sanitary News* of December 23, 1887, gives some suggestions for the prevention of the spread of an infectious disease, taking it for granted that a case has developed in a family, and that it is desired to prevent its spread and not remove the patient from the house. They are formulated from a paper read by Francis Vacher, Health Officer of Birkenhead, England. The first requisite is to prepare a room in which the patient may be isolated. It should be cleared of all furniture which is not absolutely required, and the floor should be cleansed and left bare. The room should be regarded as a source of danger and should be cut off from the rest of the house by means of a sheet, or sheets, wrung out with a disinfectant solution and kept moist therewith, suspended outside each door, and reaching to the floor. Everything taken into that room should be regarded as infected, and nothing should be removed without disinfection. Towels, pocket-handkerchiefs, soiled linen, etc., used in the room, should be boiled in a disinfectant solution. The patient should be washed with a disinfectant solution and soap and water, and in scarlet fever the body should be anointed with oil. An open fire should be kept in the room, winter and summer, and if no ventilation is provided in the house construction, a window should always be left open a little. Dogs, cats, and other pets should be excluded from the room, as they carry infection readily. In case the patient should be so unfortunate as to die, the body should at once be swathed in disinfectant cloths, and should be sealed in a metal coffin before being removed from the room. When the room is no longer required by the patient it should be thoroughly disinfected. It should then be left open to air thoroughly for a week, all its contents should then be washed, and all suspected articles, such as toys, should be burned. With this treatment, an infected person should be taken good care of, and the case terminate without communicating the disease to others.

Successful Removal of a Pin Impacted in the Larynx for Two Years.—DR. LANGMAID, of Boston, reports, in the *New York Medical Journal* of December 24, 1887, the case of a woman from whose larynx he extracted a large pin, swallowed two years previously. Mackenzie's large laryngeal forceps was the only instrument sufficient to remove it from the ventricular band.

Bequests to Medical Charities.—By the will of the late Mrs. J. J. Astor, of New York City, $160,000 are bequeathed to charitable institutions, of which St. Luke's Hospital gets $25,000, and the Women's Hospital the same amount.

In Boston, the will of the late William Hilton provides that the Massachusetts General Hospital and the City Dispensary shall each receive $50,000.

Professor Eulenburg.—The death of this well-known hygienist occurred in Berlin, December 7, 1887, in his seventy-sixth year. Early in life he studied Swedish gymnastics in Stockholm, and subsequently introduced into Germany many procedures for mechanical and orthopædic treatment. He had recently presented $2500 to the Berlin Medical Society.

The Death of Leon Bassereau is announced, at Paris, aged seventy-seven years. He was a cousin of Madame Recamier, and a man of high accomplishments. His fame as a medical man rests upon his work as a syphilographer; he was the author of the "dual theory" of syphilis. He was a Chevalier of the Legion of Honor, and a member of various societies. His writings were on the Dual Theory of Syphilis, and on the Influence of Iodide of Potassium in Syphilis.

CORRIGENDUM.

Page 748, 2d column, 25th line, for "three" *read* "these," and on the 3d line from bottom for "other" *read* "outer."

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT U. S. ARMY, FROM DECEMBER 25 TO DECEMBER 31, 1887.

BAXTER, J. H., *Colonel and Chief Medical Purveyor*—Ordered to inspect the medical purveying department at St. Louis, Mo.—*S. O. 296, A. G. O.*, December 23, 1887.

BANISTER, WILLIAM B., *First Lieutenant and Assistant Surgeon.*—Ordered to proceed to Fort Lowall, Arizona, and report to the commanding officer for duty; upon the arrival of Surgeon P. J. A. Cleary, at Fort Wingate, New Mexico—*S. O. 135, Department of Arizona*, December 20, 1887.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U. S. NAVY FOR THE WEEK ENDING DECEMBER 31, 1887.

BIDDLE, C., *Passed Assistant Surgeon.*—Detached from the Marine Rendezvous, Philadelphia, and placed on waiting orders.

CLEBORNE, C. J., *Medical Director.*—Detached as member of Medical Examining Board, December 31, and ordered to Norfolk Naval Hospital, January 5, 1888.

BRADLEY, M., *Medical Inspector.*—Detached from Naval Hospital, Norfolk, January 5, 1888, and placed on waiting orders.

CLARK, J. H., *Medical Inspector.*—Detached from special duty at Portsmouth, New Hampshire, and ordered as member of Examining Board at Washington.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE U. S. MARINE-HOSPITAL SERVICE, FOR THE TWO WEEKS ENDING DECEMBER 31, 1887.

BEVAN, A. D., *Passed Assistant Surgeon.*—Resignation accepted to take effect January 31, 1888, and leave of absence extended to that date, December 31, 1887.

BRATTON, W. D., *Assistant Surgeon.*—Granted leave of absence for thirty days, December 30, 1887.

THE MEDICAL NEWS *will be pleased to receive early intelligence of local events of general medical interest, or of matters which it is desirable to bring to the notice of the profession.*

Local papers containing reports or news items should be marked.

Letters, whether written for publication or private information, must be authenticated by the names and addresses of their writers—of course not necessarily for publication.

All communications relating to the editorial department of the NEWS *should be addressed to No. 1004 Walnut Street, Philadelphia.*